

INSIDE DOPE

by GEORGE F. TAUBENECK

Sam Glass, Attention!
Kill the Ump
Off the Cuff
City the Poor Manager
Out of This World
Branch Rickey Is
One-In-a-Million

Sam Glass, Attention!

High salaries for baseball players have taken a lot of the color and romance out of the game, oldtimers aver. Modern era diamond stars, according to disgruntled fans, are so concerned about the size of their paychecks that they've become coldly mechanical perfectionists. Thus, the game is deprived of those joyously self-abandoned "characters" of yore who flavored baseball so spicily.

A "throwback" to happier days comes along now and then, though, to delight the fans and awaken jaded scribes. One such is "Yogi" Berra of the Yankees, who sometimes has to be seen to be believed. He's great "copy" for the newspaper men.

By our count at least six sports columnists have related the tale of catcher-manager-coach Bill Dickey (prime example of a mechanical perfectionist) and his effort to rid rookie Berra of a batting fault. Berra, in his eagerness to get a hit, often swings at too many bad balls.

Just before the rookie catcher left the dugout for his turn at the plate one afternoon, Dickey cautioned him. "Think, fella, think before you swing. Think to yourself: 'I'll wait for a good pitch!'"

"Yogi" seemed to be concentrating on this advice as he walked up to face pitcher Hal Newhouser—who promptly struck him out.

Moping back to the dugout Berra complained:

"Mr. Dickey, tell me how a fellow can bat and think at the same time?"

"All right, so I'm ugly. So what?"

The speaker was Larry Berra, slam-bang catcher for the New York Yankees.

"My employers pay off on the hits I get. And I ain't never heard yet of no ball player who hits with his face . . ."

"Yogi" wangled a substantial raise from the Yankees this year. At training camp he confided to his teammates that already he'd invested wisely the extra dough.

"Put it all in insurance," he announced, self-satisfiedly.

"Insurance?" needled Moneybags DiMaggio. "Man, that's no investment."

"Accorse it is," aggrieved Berra. "I get \$60,000 when I'm dead."

One lazy afternoon in March, 1950, Casey Stengel gave his veterans a respite from spring training activities. "Yogi" and Tommy Henrich wandered out to the St. Petersburg yacht basin to watch the start of an international boat race. Pretty sight it was, too.

But some joker had hoisted a Skull and Crossbones flag on one of the big sailing yachts. Henrich pointed it out.

"Know what that means?" he nudged "Yogi."

"Natch," Berra deadpanned. "Iodine."

The legend that all businessmen picked up vanloads of money during World War II is so firmly fixed in the minds of young people that there's no use trying to disillusion them. They refuse to believe that scads of small businesses not only lost money, but passed out entirely in that impetuous half-decade.

Sold-out Citizen Tommy Henrich dined with "Yogi" soon after the war's end. Between the shrimp cocktail and the onion soup Henrich spied a formerly well-to-do Yankee rooster draped over the bar.

"Let's kit him," Tom motioned. "Sad case. Lost all his money in the war."

"What did he do?" gulped Berra. "Bet on the Germans?"

Berra did all right with the stick, and one night at Sportsman's Park in St. Louis (his home town) proud

(Concluded on Page 8, Column 1)

ISSUED EVERY MONDAY AT 450 W. FORT ST., DETROIT 26, MICHIGAN. ESTABLISHED 1926

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OCT 3 1950

DETROIT



AIR CONDITIONING & REFRIGERATION News

Vol. 61, No. 5

October 2, 1950

Serial No. 1124

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.
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REWA Plans Exhibit Contest for Visitors At REMA-RSES Show

CINCINNATI — Refrigeration Equipment Wholesalers Association (REWA) will take an active part in the REMA-R.S.E.E. 1950 West Coast Refrigeration and Air Conditioning Educational Exhibit and Conference to be held Nov. 17-19 at Municipal Auditorium, Long Beach, Calif., it is reported by H. S. McCloud, executive secretary of REWA.

It will sponsor a contest open to service engineers and contractors, in which three prizes will be awarded, a television set tentatively being planned as the first prize.

To qualify in the contest (limited to attending service engineers or contractors actively engaged in refrigeration work), participants must secure a special contest card available at the registration desk at St. Louis and answer two questions. First: Which exhibit did you get the most benefit from? Second: Why? The second question shall be answered in 25 words or less.

Individuals giving the three most original and comprehensive answers will receive the three prizes to be awarded. The manufacturer whose exhibit is voted by the contestants to provide the greatest benefits is to receive a plaque from REWA. The two runners-up among the manufacturers will get award ribbons.

Members of REWA are cooperating in promoting the educational conferences. Posters announcing the conferences are to be displayed in REWA wholesalers' stores.

Copper Shipment Rise Cuts Into Inventories

NEW YORK CITY—In shipping out 136,860 tons of refined copper in copper and copper alloy products during August, brass mills, wire mills, and foundries used more copper than in any month since January, 1947, it was reported here recently.

In turn, however, they received only 115,307 tons of copper during the month and therefore had to dip sharply into their stocks on hand.

At the end of August, their stocks on hand aggregated 305,808 tons as compared with 329,785 tons at the end of July. Their requirements at that time totaled 614,978 tons. Of this, 279,823 tons were for working stocks and 335,155 tons were for unfilled orders.

With their 305,808 tons on hand and 95,788 tons on order, they still fell short of meeting requirements by 213,382 tons. This apparent deficit compares with an apparent deficit at the end of July of 144,476 tons.

Bond Store Modernization Includes Air Conditioning

WASHINGTON, D. C.—A recent top-to-bottom modernization at the Bond Clothing Store here includes a complete, up-to-date air conditioning system installed by Griffith-Consumers Co., here, to provide the customers with shopping comfort.

Included in the new air conditioning system are two 45-ton Marlo spray-type dehumidifier air conditioning units complete with direct expansion coils, and 12 Marlo hot water heating coils.

Increased Demand for Changes In Deferment-Job List May Result In Retailers Becoming 'Unessential'

WASHINGTON, D. C.—Some changes are in sight in the setup for deferring "skilled" and "essential" workers from call-ups to military duty as reservists or through the workings of the draft boards.

Also, machinery has been established for the proper presentation of arguments from those who want to include certain skills and occupations on the possible deferment list, that weren't included on the original list.

As originally worked out, temporary deferments (six months duration) were authorized for those members of the Reserves and National Guards units who have special skills or work in certain specified key industries.

The Department of Labor worked up a list of 48 "critical" occupations, skills in which manpower is in short supply. The Department of Commerce issued a list of 72 "essential" industries, those involved in defense production or simply "necessary to the nation's health and safety." (These lists were published in the Aug. 21 issue of the NEWS).

NEW GROUP REVISING LIST

Since then an "Interdepartment Committee on Critical Occupations and Essential Activities"—with representatives from the Labor and Commerce Departments and the National Security Resources Board—has been

established, and will work on revisions of the list.

There is general agreement among the officials that the Labor Department list of 48 "critical" skills is too limited, and that the Department of Commerce list of 72 "essential" industries is too big. The latter is likely to be cut first.

It is known that the committee is considering removing "retailers" from the list of essential industries. The move will be fought, even within the Department of Commerce, but seems pretty sure to go through.

On the other hand, the Department of Labor has received a great many suggestions from industry and trade associations relative to additions to its list of critical skills, and is known to be giving serious consideration to many of them.

HOW TO REQUEST ADDITIONS

The Committee on Critical Occupations and Essential Activities is now providing information as to the proper method of suggesting additions to the lists as follows:

Individual employers, trade associations, unions, or any interested groups can write the manpower committee and propose a specific skilled job for inclusion in the list.

Such a proposal should give an exact description of the job and an explanation of the industry in which the skill is being used. There should be some data on the supply of workers available in the field specified, and information on whether similar skills exist in other industries.

Where possible, some figures should be given of the age groups of workers having these skills. Another important figure should give the number (or percentage of those now working) needed to keep the industry or activity going.

Such suggestions should be addressed to J. Dewey Coates, secretary, Interdepartmental Committee on Critical Occupations and Essential Activities, Room 7326, U. S. Labor Department, Washington, D. C.

Draft boards use their own definition of what is "necessary" to the public health and safety, although they may be guided in some measure unofficially by the "critical skills" and "essential activities lists."

Maj. Gen. Lewis B. Hershey, Director of Selective Service, is quoted as saying that "I personally believe we ought to exhaust the manpower group of 19 to 25 before we move on. I am saying this because it has a bearing on industry. If industry is reasonably sure they can have everybody above 26, that tends to give industry a certain amount of stabilization."

With draft boards finding it difficult to fill quotas, it would seem that there would be little probability of getting a deferment for a single worker under 26.

15 Industry Firms To Display Equipment At Food Chains Show

WASHINGTON, D. C.—Fifteen firms, mostly manufacturers, will display their lines of refrigeration equipment at the 17th annual meeting of the National Association of Food Chains at Cincinnati on Oct. 16-17. John A. Logan, president of the association, announced here recently.

Logan stated, "We have only two general requirements concerning exhibits. First, all items displayed are for use by the food chains and not for resale to customers, and second, the items must be new and of major interest to food chain operators.

"We arranged a manufacturers' exhibit for the first time in connection with the NAFC annual meeting last year in Washington, D. C.

"It proved so successful from the standpoint of both exhibitors and food chain executives that it was decided to repeat the displays this year for our members."

Among the firms that have already signed up to exhibit equipment are:

Bally Case & Cooler Co., display cases for meat, dairy, and frozen food products; Coca-Cola Co., coin operated bottle-vending machines; Coolerator Co., commercial freezers.

Freshmaster Corp., display equipment for juice concentrates; Ed Friedrich Sales Corp., refrigerated display cabinets, self-service frozen food and vegetable cases; Frigidaire division, display cases, reach-in refrigerators, air conditioning, water coolers, and condensing units.

C. V. Hill & Co., Inc., open type refrigerated display cases; Hussmann Refrigeration, Inc., refrigerated display cases; Maintain Store Engineering Service, display equipment and canopy lighting.

McCray Refrigerator Co., self-service display cases and frozen food cases; Super Cold Co., service and self-service refrigerated display cases; Tyler Fixture Corp., refrigerated display cases and back room refrigerators.

Viking Refrigerators, Inc., refrigerated display cases; The Warren Co., Inc., commercial refrigerated display cases; and Weber Showcase & Fixtures, soda fountains and ice cream cabinets.

**With Every
ICE MAKER...**

Use **Filtrine**
HIGH EFFICIENCY

**SAVE SERVICE —
remove TASTES, SOLIDS**

FILTRINE MANUFACTURING COMPANY
Brooklyn 5 • New York



CREATES A MOOD FOR FROZEN FOOD

KOCH MODEL 1407 FROZEN FOOD CASE

You'll never get the cold shoulder when you sell this new KOCH Frozen Food Case. Ice Cream and frozen foods are UP within easy reach . . . to stop shoppers. Foods stay frozen hard, yet no wintry blasts chill the enthusiasm of grocers because the amazing new 3-way cooling principle keeps cold DOWN where it should be for maximum protection.

Superbly designed and brilliantly lighted to stand out in any surroundings, Model 1407 is a real volume-builder. And its remarkable efficiency keeps operating costs to a minimum. Here is another reason why the choice is KOCH wherever cold is sold. Get the facts on the complete KOCH line today.

SEE FOR YOURSELF HOW IT LOOKS . . . HOW IT WORKS . . . HOW IT SELLS!

KOCH
REFRIGERATORS

NORTH KANSAS CITY 16, MO.

THE QUALITY REFRIGERATOR LINE SINCE 1883

KOCH REFRIGERATORS
North Kansas City 16, Mo.
RN-20

Please send me at once, without obligation, complete information on profit-making Koch Display Cases and Refrigerators.

Name _____

Address _____

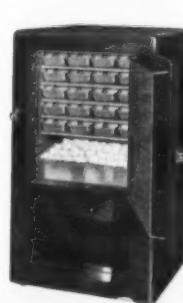
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designed to do a better job

Perlick dispensing equipment is designed to provide top efficiency with a minimum of moving parts, and without complicated mechanism. Long life, trouble-free operation and economy are the result!

ICE CUBE MAKER

Produces 280 cubes every 4 hours . . . 30 lbs. of ice for less than 5¢—a ready supply at all times!

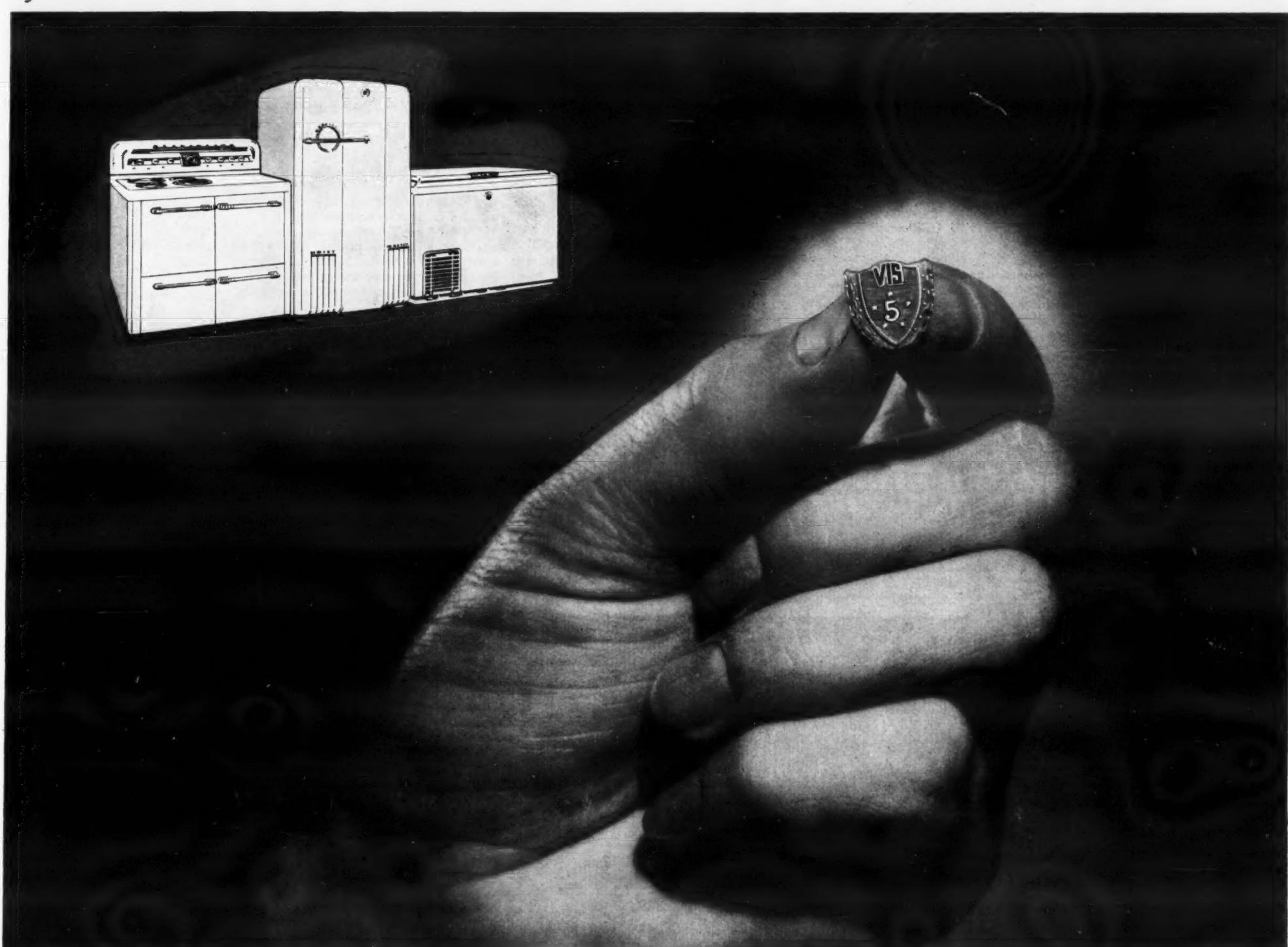


THEY PRESERVE BEER FLAVOR

All Perlick direct draw dispensers are built to maintain the proper temperature, and preserve valuable beer flavor. Exclusive Air Cooled Faucet Standards make the difference!

Perlick
BRASS CO.
Milwaukee 10, Wis.





"I have seen it work"

"When I was first told about the Kelvinator '5-Star' emblem idea . . . I wondered! I was doing 'all right' in my selling job. I didn't see how a little pin could help a great deal.

"But after completing Kelvinator's VIS sales clinics—and earning the right to wear this emblem in my lapel—well, I've had some pleasant surprises.

"In accepting the emblem, I made some pledges. I pledged that I would greet my customers courteously . . . that I would respect their time. I pledged that I would know my products thoroughly . . . that I would try to determine my customers' real needs . . . and then sell them only those products which would meet those needs.

"Now, that may look like just ABC stuff—but how we all forget to apply it! And what a difference a *real* honoring of these pledges means to anyone selling!

"I have discovered anew how courtesy pays off in customer friendliness. I find, too, that my customers respect *me* when

I respect *their* time. I also find that by uncovering needs I complete sales faster—and make sure of satisfied customers. And, by knowing my products, I don't lose sales because of unanswered customer questions!

"This little emblem—and the concept of service it represents—have made my work much more profitable for me. To me—and to my customers—it is the mark of the *professional* salesman—a man who knows his job, and who knows that the only sure way to success is safeguarding the interests of *customers*!"

"Yes, I have seen my emblem work. And so, I am sure, has every other salesman who wears it."

* * *

Making things "work" at the point-of-sale is the sole objective of Kelvinator's popular Vocation-in-Sales Program. It's more evidence of the retail-minded thinking that makes the Kelvinator franchise the most valuable franchise in the appliance industry!

GET MORE

NEW ON TV! See "Star of the Family", Kelvinator's sparkling variety show with Morton Downey on the CBS-TV network. See your local paper.

Get Kelvinator

... THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

KELVINATOR, DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT 32, MICHIGAN

Promotion, Selling Talks Set for IAEI--

(Concluded from Page 1, Column 5)
H. Carens, vice president of Boston Edison Co., will open the conference Wednesday morning. Then will come the keynote speech by A. H. Kessler, IAEI president.

Two other talks will be given at this session. Dr. Dexter M. Keezer, director, Economics Department, McGraw-Hill Publishing Co., will speak on "The General Economic Outlook" and Arno H. Johnson, vice president and director of marketing media and research for J. Walter Thompson Co., will present "Analyses of Consumers' Purchasing Power and Market Opportunities."

An address by Kenneth B. Backman, general manager of the Boston Better Business Bureau, on "Legal Pitfalls in Advertising and Sales Promotion Operations" will start off the second general session on Friday morning.

Other speakers lined up for the session are J. H. Van Aernam, sales promotion manager of Niagara-Mohawk Power Corp.; R. N. Harmon, engineering manager, Westinghouse radio stations; and Lacy Van Aernam's topic will be "In God We Trust" (an approach to the old-home wiring problem), and Harmon will consider the question "Where Do We Stand on AM, FM, and Television?"

In addition to the talks by Bolin and Rushton, the Friday afternoon session will hear a discussion on "The Economics of Lighting" by L. E. Johnson, Northern States Power Co., and see a motion picture showing the latest developments in recreational lighting.

Two special luncheons with guest

speakers have been scheduled. W. V. Merrihue, manager, Employe and Community Relations, Apparatus Department, General Electric Co., will speak at the first luncheon on Wednesday. His subject will be "The First Job For All of Us."

The second luncheon is set for Friday, the speaker being Dr. Leonard Carmichael, president of Tufts college. He will talk on "The Engineer and General Education."

On Thursday, which is Columbus Day, a holiday widely observed in Boston, the league managers will have an open forum in the morning to discuss league problems. The afternoon will be devoted to a sight-seeing tour, with dinner at the Boston Yacht Club. The tour will include a visit to the WBZ studios.

The other forum will take place Wednesday afternoon. At the adjournment of this session, the sociability hour for conferees will be held. The annual banquet is to be held Friday evening and the closed business meeting Saturday morning.

The conference is open to representatives of all branches of the electrical industry.

Westinghouse Shipments--

(Concluded from Page 1, Column 2)

The six price increases are: automatic pop-up toaster (TO-501) up \$2 to \$22.95; new square waffle baker (WB-501) up \$2.45 to \$24.95; iron (ID-505) up \$1 to \$8.95; electric hot plate (HP-912) up \$2 to \$17.95; food mixer (FM-81) up \$2 to \$37.50; and the coffee maker (CM-81) up \$3 to \$32.95.

Credit Ad Standards--

(Concluded from Page 1, Column 5)

Among those organizations which already have signified their support of the standards are: American Bankers Association, National Association of Retail Credit Jewelers, National Used Car Dealers Association, Retail Credit Institute of America, National Consumer Finance Association, National Retail Furniture Dealers Association, American Retail Federation, National Retail Drygoods Association, and American Industrial Banking Association.

Victor H. Nyborg, ABBB president, said the association with its member bureaus is prepared also to set forth again in simple language recommendations on complying with credit regulations. He said the association's management committee has been studying the over-all problem and that it was ready to set up special committees when required to meet the nation's increasing war efforts.

The issuance of these standards today, he observed, is another step in the ABBB's program to encourage a stable national economy in the face of a growing demand for men, money, and materials. The program started in the latter part of July with a national effort to curb "scare" advertising and hoarding.

The ABBB standards for advertising consumer credit cover 10 points and include, for example, requirements that no advertiser shall make any statement about credit terms which is "false or misleading" or which tends to "frustrate" Regulation W.

Advertisers may not use any message which states or implies that

loan or credit terms, permitted by the regulation under special circumstances or in limited cases, are generally available. Instalment credit may not be called a "charge account." Neither may an advertiser state "no down payment."

Copies of the standards are being distributed to the association's member bureaus where they will be available to local advertisers. Others may obtain copies direct from the Association of Better Business Bureaus, Inc., Chrysler Bldg., New York 17.

The standards are:

1. No advertiser shall make any statement about credit terms which is false or misleading or which tends to frustrate Regulation W.

2. No advertiser shall make any offer or representation which states or implies that loan or credit terms are available, which in fact are not obtainable under Regulation W.

3. No advertiser shall use any statement which states or implies that loan or credit terms, permitted by Regulation W, under special circumstances or in limited cases only, are available generally.

4. No advertisement shall be so constructed, typographically or otherwise, as to create the impression that credit terms featured apply to all merchandise, loans, credits, or services offered in the advertisement, when such is not the fact.

5. No advertiser shall offer allowances or credits, including trade-in allowances, which are fictitious or exaggerated or in any way tend to mislead.

6. When instalment credit terms are advertised as specific amounts per week or per month, the advertiser shall refer to the fact that a down payment is required, if such be the case.

(NOTE: It shall be deemed satisfactory, in complying with this standard, if an advertiser adopt any one of the following methods of compliance: a. Name the amount of the down payment specifically. b. Name the percentage of down payment required. c. State, without qualification, that a down payment is required.)

7. No specific down payment shall be quoted in an advertisement which is less than the amount required in Regulation W.

8. When offers to lend money for the purchase of listed merchandise are advertised, the advertiser shall refer to the fact that such loans are limited to only a portion of the purchase price or to the purchase price after the down payment.

9. No advertiser shall refer to an instalment credit as a charge account. Instalment credit is defined by Regulation W as a "credit which the obligor undertakes to repay in two or more scheduled payments or as to which the obligor undertakes to make two or more scheduled payment or deposits usable to liquidate the credit, or which has a similar purpose or effect."

10. No advertiser shall employ the phrase "No money down," or its equivalent, in connection with a charge account.

(NOTE: For the purpose of these Standards the term "Advertiser" shall include all who sell or lend by printed or oral representations.)

Frigidaire Prices Up--

(Concluded from Page 1, Column 3)
condensers, reach-in refrigerators, and display cases.

On appliances, the following increases were announced:

Refrigerators

| Model | Old Price | New Price |
|--------|-----------|-----------|
| AM43 | \$184.75 | \$194.75 |
| AM43F | 189.75 | 199.75 |
| AM60 | 189.75 | 199.75 |
| SM60 | 194.75 | 206.75 |
| SM76 | 219.75 | 229.75 |
| MM76 | 229.75 | 239.75 |
| MM74 | 249.75 | 259.75 |
| MM74P | 274.75 | 284.75 |
| MM92 | 269.75 | 279.75 |
| MM110 | 299.75 | 309.75 |
| DM90 | 309.75 | 329.75 |
| DM90P | 339.75 | 359.75 |
| DM107 | 349.75 | 369.75 |
| DM107P | 379.75 | 399.75 |
| IM80 | 399.75 | 419.75 |
| IM80P | 429.75 | 449.75 |
| IM100 | 449.75 | 469.75 |
| IM100P | 489.75 | 509.75 |

Home Laundry

| | | |
|--------------|--------|--------|
| Washer | 289.75 | 304.75 |
| Drier 230 | 209.75 | 221.75 |
| Ironer 10-26 | 164.75 | 169.75 |
| Ironer 10-30 | 209.75 | 219.75 |

Freezers

| | | |
|-------|--------|--------|
| HM90 | 299.75 | 319.75 |
| HM120 | 369.75 | 389.75 |
| HM180 | 479.75 | 499.75 |

Ranges

| | | |
|------|--------|--------|
| RK3 | 154.75 | 162.75 |
| RK4 | 164.75 | 169.75 |
| RM30 | 169.75 | 178.75 |
| RM35 | 199.75 | 209.75 |
| RM10 | 194.75 | 204.75 |
| RM27 | 239.75 | 249.75 |
| RM45 | 279.75 | 289.75 |
| RM65 | 309.75 | 329.75 |
| RM75 | 349.75 | 369.75 |

Water Heaters

| | | |
|----------|--------|--------|
| EOT-30S | 123.75 | 129.75 |
| EOT-30SM | 129.75 | 135.75 |
| EOT-40D | 144.75 | 149.75 |
| EOT-40DM | 154.75 | 159.75 |
| EO-32S | 106.75 | 109.75 |
| EO-32SM | 119.75 | 122.75 |
| EO-32D | 115.75 | 119.75 |
| EO-32DM | 129.75 | 133.75 |
| EO-40S | 123.75 | 129.75 |
| EO-40SM | 132.75 | 139.75 |
| EO-40D | 129.75 | 137.75 |
| EO-40DM | 139.75 | 147.75 |
| EO-52S | 132.75 | 137.75 |
| EO-52SM | 142.75 | 147.75 |
| EO-52D | 139.75 | 147.75 |
| EO-52DM | 149.75 | 157.75 |
| EO-64D | 159.75 | 167.75 |
| EO-64DM | 172.75 | 180.75 |
| EO-80D | 179.75 | 189.75 |
| EO-80DM | 194.75 | 204.75 |

WE WILL BUY!

SURPLUS REFRIGERATION UNITS

BELT-DRIVEN OR HERMETICS

1/6 H.P. to 10 H.P.

ANY QUANTITIES • MUST BE NEW

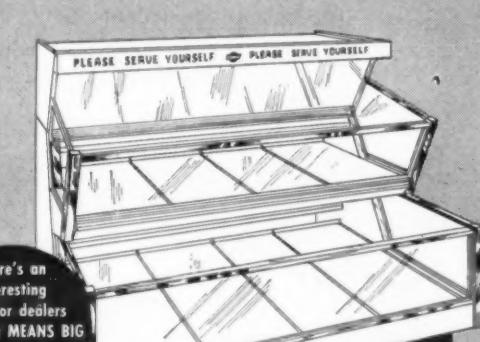
Write, Phone Or Call For IMMEDIATE ACTION

TRACO Industrial Corp.

455 W. 19 St., N. Y. 19, Watkins 4-4302

(Send for Traco's complete list of sensational bargains.)

*Serving America's
Finest Food Stores!*



...ONE OF 62 DIFFERENT
BALLY MODELS and SIZES

Bally
REFRIGERATED DISPLAY CASES

Bally Case and Cooler Co., Bally, Pa.



WOLVERINE TUBE DIVISION
Calumet & Hecla Consolidated Copper Company
INCORPORATED
MANUFACTURERS OF SEAMLESS, NON-FERROUS TUBING
1413 CENTRAL AVE. • DETROIT 9, MICH.

Plants at Detroit, and Decatur, Alabama

Stocks Available at All Wolverine Mill Depots:
DETROIT, MICH. • DECATUR, ALA. • HOUSTON, TEXAS
LOS ANGELES, CALIF. • LONG ISLAND CITY, N.Y.

Sales Offices in Principal Cities

Frigidaire's parade of refrigeration progress



FRIGIDAIRE—A Leader in Cabinet Design and Construction . . .

Little more than 30 years ago the household mechanical refrigerator was unknown, and food spoilage was a major problem.

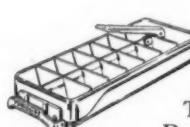
The first Frigidaire marked a great step forward. For more than 30 years Frigidaire and General Motors, as pioneers and leaders in the industry, have, through constant engineering, product and laboratory research, contributed

many of the advancements that make the modern refrigerator the efficient household convenience it is today in millions of American homes.

For example, Frigidaire was first to produce the sturdy, one-piece steel cabinet, porcelain-on-steel refrigerators, acid-resisting porcelain food compartments and other cabinet improvements that mean longer life and better performance.

Frigidaire also developed and introduced the great product advances noted above. All of these are included in today's smartly designed, feature-packed models, typifying the quality Frigidaire builds into every Frigidaire Refrigerator. And the proof of that superior quality lies in the more than 12 million Frigidaire refrigerating units that have been built and sold.

A Leader in Product Research and Development . . .



Quickube Ice Trays. The famous Frigidaire Double-Easy Quickube Trays, introduced in 1937 models, took the work out of the procuring of ice cubes.



Rustproof Aluminum Shelves—another Frigidaire "first." Formed from a single sheet of aluminum which eliminates welded joints. Easy to clean, rust-proof, and ruggedly rigid.



Freon Refrigerant. Frigidaire and General Motors developed Freon—the safe refrigerant. Enables the Meter-Miser to make more cold on no more current.



Cold-Wall Cooling. The Cold-Wall principle was introduced by Frigidaire in 1939. This put chilling coils into the walls of the food compartment to retard drying out of uncovered foods.



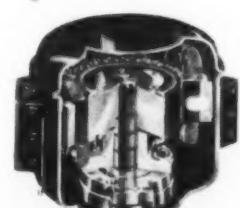
The Hydrator. Frigidaire brought out the first Hydrator in 1930 to keep fruits and vegetables fresh for days. A notable advance in the science of food keeping.



The Cold-Control—brain of the refrigerator—was invented by Frigidaire in 1928. It maintains desired refrigerator temperatures and is used for defrosting.

Frigidaire's Famous Meter-Miser Compressor

The Meter-Miser was developed and introduced by Frigidaire in 1933, and is the simplest refrigerating mechanism ever built. Its steel case seals in and protects an amazingly efficient mechanism . . . machined to the precision of a fine watch. Today's improved Meter-Miser, while more compact than ever, produces more cold, more easily, more quietly, and on less current than ever!



Frigidaire's 3 types of Refrigerators for all food-keeping needs

LEFT—Imperial Models have separate near-zero Locker-Top to keep foods frozen. The lower compartment is refrigerated by the new, improved Cold-Wall cooling with the Refrig-o-plate.

CENTER—De Luxe Models have low-temperature Super-Freezer Chest. The main food compartment is refrigerated by the Freezer Chest and new, improved Cold-Wall cooling.

RIGHT—Master and Standard Models have colder-than-ever Super-Freezer. The food compartment is refrigerated from top to bottom by direct air circulation from Super-Freezer.

You can't match a 
FRIGIDAIRE
America's No. 1 Refrigerator



VIDEO SHOW M.C.: Singing star Morton Downey is headliner in new \$1,000,000 TV variety show, "Star of the Family," being sponsored weekly over CBS by Kelvinator. Show will feature big-name guest stars.

Kelvinator \$Million TV Show Stars Downey

DETROIT—Kelvinator is sponsoring a new \$1,000,000 TV variety show with Morton Downey as master of ceremonies which began Sept. 22 over the Columbia Broadcasting System, according to an announcement by J. C. Bonning, who is Kelvinator's

advertising and sales promotion manager.

The show, entitled "Star of the Family," will be telecast weekly on Friday night over CBS-TV, from 10 to 10:30 New York time. It is scheduled for release, coast to coast,

through 61 outlets, on a "live" basis where network facilities permit; otherwise by special television recording.

Built around singing star Morton Downey, the show also will feature a series of outstanding personalities in the entertainment field as surprise guest stars.

Bonning said these are expected to include such top names as the Pat Rooneys, the Mills Brothers, Morey Amsterdam, Jane Pickens, Peter Lind Hayes, the Ink Spots, and Phil Silvers.

Bonning said Kelvinator decided upon the Downey show after three years of experimentation with other types of TV shows.

The show will feature peeks behind the scenes into the family life of the famous guest stars. Parents or children of the star will be interviewed by Morton Downey without revealing the identity of the show's guest.

Finally after the interview brings out a number of identification clues, the star is introduced as a surprise climax. The show is sprinkled with songs by Downey and other variety songs.

Gibson Sales Guns Hit Target

'Stop Shopper' Give-away Promotions Click In Drive To Grab Fair Share of Metropolitan Market Volume

By George M. Hanning

GREENVILLE, Mich.—A "Stop the Shopper" promotion and a series of "sales clinching" give-aways for dealers have been the leading guns in Gibson Refrigerator Co.'s bid this year for its fair share of sales in metropolitan markets.

Company officials recently expressed satisfaction that the campaign which culminated in the Spotlight Special promotion just now drawing to a close, has met with success.

G. V. Drumm, Gibson's advertising manager who has directed the campaign, stated that its two objects were:

1. To increase acceptance of the Gibson name in metropolitan areas.

2. To concentrate promotional efforts at the point of sale, where the dealer and the customer meet.

The program's success, Drumm says, can be measured by the great increase in the sale of Gibson products that has come from metropolitan areas and the intensified dealer interest in promoting Gibson appliances.

The "Stop the Shopper" campaign was the first wave in Gibson's conquest of major marketing areas. Boston was the first target and success here was followed by repeated trials in many other cities including Detroit, Baltimore, Flint, Cleveland, and Cincinnati.

Idea behind the "Stop the Shopper" campaign was to get as many people as possible in the market area to stop and look at Gibson products. This was done by displaying the refrigerator in leading food markets throughout the city.

In Boston, the Gibson distributor engaged the cooperation of the "Stop and Shop" chain of supermarkets in conducting the promotion.

A refrigerator was placed in each of the 75 cooperating units of the chain. The chain announced in its own advertisements that five Gibson refrigerators and 70 kitchen clocks would be given away to holders of lucky tickets.

SUPERMARKETS COOPERATE

An entry coupon was printed in the advertisement, others were given to shoppers as they passed the check-out stands, and still others were given to patrons of local Gibson dealers.

Those who filled out the entry coupons had to put them in the tilt bin of the refrigerator on display at the supermarket. In this way each entrant was given an opportunity to examine the refrigerator closely and to touch it.

Placards and banners on the refrigerator listed special Gibson features and the names and addresses of nearby Gibson dealers.

The refrigerator remained on display in the supermarket for two weeks and then drawings were held. At the end of the contest, entry coupons were portioned out to Gibson dealers in whose territory the prospects lived.

Dealers followed up these prospects with direct mail and offered \$20 in free groceries to prospects who would buy now.

The increase in the recognition of the Gibson name in the Boston area following the contest was so marked, Drumm said, and the sales volume so much greater that, today Boston is one of the strongest metropolitan areas in Gibson's national distribution pattern.

Similar results were noted in other cities where the idea was tried, he stated.

Following the "Stop the Shopper" promotion, a series of "give-away" promotions were launched that offered customer premiums for purchasing now. Gimmicks were also used to emphasize the "dramatic" Gibson features and to keep the name of Gibson constantly before the prospects.

"Everything was done," Drumm asserted, "to help the retailer close sales. Our promotions gave the customers incentive to buy right away and gave the dealer incentive to tell the complete story on Gibson and to push the line."

First gimmick to go out was a pink plastic piggy bank to emphasize that it took only pennies a day to own a Gibson refrigerator and that ownership of the refrigerator saved the customer pennies a day through its economy features.

Advertising and window display

material were used to invite the public to get a free piggy bank at the Gibson dealership. When the prospect entered the store, the salesman guided her to the Gibson refrigerator. While he went over the features of the box with her, he dropped a penny into the piggy bank for each of the features covered.

At the end of the demonstration, he presented the jingling piggy bank to the prospect. He emphasized here that it took only pennies a day to own a Gibson. Having the piggy bank in the prospect's home acted as a constant reminder of the demonstration she had seen, and features she could have for only pennies a day.

Another gimmick was built around the Touch-A-Tap feature of Gibson's Model 1130 refrigerator. This model contains a built-in auxiliary coil that connects to the domestic water supply. It keeps water cold at all times. By touching the tap in the refrigerator, the housewife, or anyone else in the family can have cold drinking water whenever they want it.

To emphasize this feature, especially on warm June days, the salesman selected a clean Gibson measuring glass tumbler. He handed it to the prospect and had her draw herself a glass of water from the hooked-up display model.

While she drank the glass of cool water, the salesman extolled the advantages of having fresh, cool water on hand at all times.

At the end of the demonstration, he told the customer to keep the glass and take it home with her as a gift. Then he points out that for buying the refrigerator now she would receive a 24-piece set of Royal Ruby tumblers free.

During June, at the same time as the Touch-A-Tap promotion was in progress, Gibson conducted a "Win-Dough" display contest, offering prizes and awards for the best window display of Gibson products.

Biggest and most recent promotion, announced in July and continuing through August, was the "Spotlight Special" which focussed attention on the two top models in the Gibson line, the 1100 and 1150.

STRESS EXCLUSIVE FEATURES

Basic strategy of the promotion was to point the spotlight to the "never-seen-before" features of these deluxe models.

Incentive was offered from the district manager level down. Prize contests offering Chevrolets and gold watches were used to spur district managers and wholesale salesmen to exceed their quotas on these two models.

Dealers were offered a wide array of promotional and advertising materials at special prices. Customers were offered not one, but three premiums for watching demonstrations and purchasing one of these models.

As a come-on gift to get the customer into the store, a fruit and vegetable knife was offered. Then, when the customer had witnessed a demonstration with emphasis on the Pres-Toe automatic door opener and closer, the Swing'r Crisp'r, the Butt'ry, and Gibson's Freez'r Locker and Fresh'n'r Locker, the salesman offered the customer a free set of refrigerator ware for buying that particular model.

The refrigerator set consisted of 14 pieces including a pitcher, six refrigerator dishes, five bowls, and two plastic egg trays.

On top of that, if the customer purchased the box within five days, he would receive a 12-piece cutlery set. One wholesale salesman who turned in a record sales performance during the contest period, declared that this cutlery set was responsible for closing a large number of sales.

G. L. Rees, Gibson sales manager, pointed out that Gibson had increased production on the deluxe refrigerator in order to build up a backlog for the contest period.

"Still sales, due to both dealer promotion effort and the effects of the Korean war, forced the company to allocate shipments on these models by the middle of July," he said.

Distributor salesmen and factory officials alike agreed that the net result of all these promotional efforts has been to push the name of Gibson into the forefront of the battle for domination of metropolitan markets.



JUST DEMONSTRATE THE "ROCK-OUT" FEATURE IN INLAND "MAGIC TOUCH" ICE TRAYS

It's so simple and fast . . . and so convincing! Just slip a "Magic Touch" Tray from a refrigerator on the floor. Ask the prospect to watch. Raise the "Magic Touch" lever. Tilt the whole grid into the "Rock-Out" position. There! A whole row of free, dry, separate ice cubes . . . one or more to be used now, the rest later!

You'll close more refrigerator sales with this amazing demonstration . . . if the refrigerators you stock and sell come to you factory-equipped, completely, with "Magic Touch" Trays, all with the "Rock-Out" feature. Insist on that!

National magazine advertising helps you . . . a strong campaign, with a balanced appeal to men and women. Cash in on it. Take full advantage of this pre-selling. It will be working on every prospect who comes into your store.

Don't neglect replacement profits. They're easy, quick and big. Many of your customers have outmoded, inconvenient ice trays. Sell them "Magic Touch" Trays . . . for a profitable sale today . . . and to lead to a refrigerator sale later. Order Inland Magic Touch "Rock-Out" Ice Cube Trays from your refrigerator manufacturer or distributor.

New refrigerators fully equipped with Inland "Magic Touch" Ice Trays give your customers complete ice convenience

"Magic Touch" Ice Cube Trays

by **INLAND**
MANUFACTURING

INLAND MANUFACTURING DIV., General Motors Corporation, Dayton, Ohio





POINTERS ON MAKE-UP: Betty Furness (far left), actress-demonstrator for Westinghouse "Studio One" Television Theater, told home service representatives the importance of proper costuming, make-up, and hair styling to the conducting of a demonstration on video.

WHO'S WHO: Betty Furness, Judith O'Flaherty, and Florence Hanford, Philadelphia Electric; and Elizabeth Parker, Georgia Power Co.

How To Operate Demonstrations On Television

MANSFIELD, Ohio—How appliance dealers may effectively use television as a medium of selling mass audiences at low cost was graphically illustrated at the Westinghouse home service conference held here in August.

Marion Ryan, assistant director, home service division, Detroit Edison Co., presented a mock staging of the specialty selling program used by her company. She featured a graduation party and spotlighted the Westinghouse Rancho range. The recipe for the party demonstrated both surface and oven cooking.

Called "Kitchen Carnival," the Detroit Edison program uses a carnival theme both in music and stage background. A model kitchen is the stage setting and off to one side is a carousel on which three appliances are displayed. The carousel, powered by its own motor, revolves only at the beginning and end of each program.

Brand names are stressed whenever possible with the show built around the performance of a particular appliance. To insure complete coverage of the lines they represent, brands are rotated periodically.

A quiz called "What's Cooking?" is featured the last five minutes of the program. Ingredients of a recipe are given and contestants must guess what it will make. The names of persons who request recipes are filed and three are selected for each quiz. These are alerted the morning of the program, but only one is called. If she guesses correctly, she wins a small appliance.

Florence P. Hanford, supervisor of home economics, Philadelphia Electric Co., described the institutional type of program sponsored by her company—using only the display of appliances in the kitchen setting to identify the type and model.

A cooking demonstration is used here also. A complete meal—usually a dinner—is prepared during the program. Even though brands of appliances are not named, their sales features are woven throughout the presentation.

Approximately 20 hours are needed to prepare each program, Mrs. Hanford stated. First, the menu is planned and then the recipes are tested for texture, taste, color, and appearance. Next, a cue sheet is made to show the foods in order used the action, and the story. The cue sheet helps to time the show and serves as an instruction sheet for the television camera crews. An equipment sheet is also prepared to show the number and location of materials needed for the program.

The first rehearsal is made at the company kitchen to adjust for timing, Mrs. Hanford continued. The second rehearsal is held at the television station studio the morning of the actual telecast for additional refinements in timing.

Both utilities measure viewer response by requests for recipes. Philadelphia Electric reported an average of 1,500 to 1,700 requests each week and Detroit averages 1,000.

To date, each utility has demonstrated the various lines of ranges, refrigerators, and home freezers, but both companies hope to demonstrate laundry equipment this fall.

Betty Furness, actress and demonstrator for Westinghouse "Studio

9 North Ohio Dealers Sell Record Number Of Appliances In Theater Demonstrations

CLEVELAND—A series of theater demonstrations on Hotpoint electric ranges, followed by "open houses" in the dealers' stores, helped a group of nine appliance retailers in three northeastern Ohio counties to sell more major appliances in the first four months of 1950 than they had sold in the whole year of 1949.

The dealers, located in Lake, Geauga, and Ashtabula counties, work in a market area containing 36,000 electrical customers. During the period of the promotion—Feb. 1 to April 15—they sold 262 electric ranges, refrigerators, home freezers, and other major appliances.

In conducting the promotion, they had the support of their distributor, Graybar Electric Co. of Cleveland, and their manufacturer, Hotpoint, Inc. Originator and director of the idea was Robert C. Hienton, sales manager of the Cleveland Electric Illuminating Co.

"One" television theater, told the home service representatives that since television cameras tend to magnify and sharpen images, de-emphasis is important in costuming.

Campaign advertising on a cooperative basis began in 15 newspapers in early February. Copy plugged the range demonstrations to be held in seven local theaters during March and April.

Some 35,000 reminder tickets for the cooking schools were passed out to movie-goers during the week preceding each school, and a short movie trailer on Hotpoint ranges was prepared by Graybar for showing in each theater.

Announcement advertisements were run by the theaters which also displayed a range, and put up a 40 by 60-in. lobby card listing participating dealers and the Hotpoint range story.

The program in each town brought out capacity house crowds, with paid admission at regular theater prices. The turnout varied from 300 in Orwell, Middlefield, and Chardon, to 950 in Ashtabula.

Total attendance at the seven

schools was 3,450 representing a substantial percentage of the families in these towns and surrounding farms.

The theater program included introduction of the dealers to the audience as sponsors of the event, a skit on how to prepare a complete breakfast electrically in nine minutes, and a demonstration of the range followed by a short product story on Hotpoint's major appliances.

A range and six small electrical appliances were given away plus baskets of groceries as prizes. Interesting sidelight on range winners in the various towns is that five of them became new converts to electric cooking as a result.

Open house showings were held by the nine cooperating Hotpoint dealers for the remainder of each week after the theater demonstration in their respective towns. Two appliance merchants held their grand openings at this time. One sold 27 ranges.

Further followup is planned by all the dealers as regular "sit-down" demonstrations at a future date.

The successful pattern of this promotion will be repeated elsewhere in the marketing area, according to project director Hienton.

Kaufmann's — PITTSBURGH

DISCOVERED YEARS AGO IT WAS A SMART MOVE TO...

Switch to Hotpoint!

for YEAR 'ROUND Profits!

Like a lot of other good stores, Kaufmann's—Pittsburgh—finds that Hotpoint's year 'round sales program has helped balance its electric appliance sales for greater monthly profit!

★ No More "Letdowns" Following Hot Selling Seasons

★ No More "Doldrums" That Eat Away Profits

★ No More "Valleys" That Reduce Profit Peaks

.. But a Full Line of Products that Insures a Full Year of Profits

Switch to Hotpoint!

for YEAR 'ROUND Profits!

Hotpoint Inc.

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALS® • WATER HEATERS • FOOD FREEZERS
AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS • CABINETS

(A General Electric Affiliate)

5600 West Taylor Street, Chicago 44, Illinois

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

friends presented him with a rasher of gifts in a pre-game ceremony.

"Yogi" was overcome with rare emotion when he took the public-address-system's microphone to thank well-wishers.

"Mighty obliged to all you fine people," he blurted, "for making these presents necessary."

In the 1947 World Series, the unpredictable Berra was a disappointment. He threw to wrong bases, he was a bust at bat, and Branch Rickey's alert Brooklyn Dodgers

stole bases on him at damaging moments.

Teammates regarded his nervous lapses intolerantly, and said so.

"Jeezus, fellers," protested Berra, "I'm only human."

Somehow, that thought hadn't occurred to anyone on the Yankee roster.

Kill the Ump

"Scooter" Rizzuto of the New York Yankees is only five-foot-five, but he owns a temper which could have belonged to a giant like Bronco Nagurski.

One afternoon Rizzuto got sore as hell when an umpire called a third strike on a pitch which the little fellow thought was too high. The umpire watched in silence as Rizzuto threw his bat to the ground, spat on it accurately, and raged out a slew of eloquent curses.

"Aw, shut up, half-pint," retorted

the much-maligned umpire, "or I'll bite your little head off."

"Yeah, do that," scoffed the tiny batter, "and you'll have more brains in your belly than in your big head!"

Coach Dick Bartell of the Detroit Tigers charged down from his third-base spot to protest a called strike. Hearing no word of response from the umpire, Bartell screeched:

"Why don't you answer me?"

"I did. I shook my head."

"Hellyadid," cracked Bartell. "I didn't hear it rattle."

And out of the game he went.

Off the Cuff

Early days in baseball were the most uncompromisingly partisan. The home team could do no wrong. An umpire had to be the bravest of men. Even sportswriters were affected by hometownitis.

Bill Klem umpired a game which was a heart-breaker for the local club. It lost, 1-0, in the 10th inning. Five times Klem risked his life by calling out base-runners on close plays. The fans were ready to hang him. One became so enraged that he died of a heart attack. Headlined the local newspaper:

"KLEM KILLS FAN"

'Twas this same stubbornly honest Bill Klem who majestically stood his ground when the continually irate John McGraw threatened:

"You can't get away with this, Klem! I'll have you fired from your job!"

"If you can do that," the dean of umpires replied with genuine dignity, "I wouldn't want the job, or any part of baseball."

For once in his life McGraw shut up.

Prior to serving as a National League umpire, Charlie Moran distinguished himself as coach of the 1921 Centre College football team. This obscure eleven from the remote hills of Kentucky astounded the sports world by whipping then-mighty Harvard. "Bo" McMillan, mentor of the Detroit Lions, quarterbacked Centre College on that memorable afternoon.

Nothing short of fathering quadruplets could have made Charlie Moran any prouder than he was about that coaching feat. With that fact in mind, let's "fade" forward (or "pan," as the movie and television cameramen put it) to the twilight of Moran's subsequent umpiring career.

It was at least 104° F. at Ebbets Field in Brooklyn. Catcher Al Lopez of the Dodgers had suffered enough. The Dodgers were nine runs behind, the opposing pitcher was masterful, and Lopez figured it was high time the young bull-pen catcher got some major league experience.

Umpire Moran was perspiring, too—and that gave Lopez an idea.

"Stee-ee-rike tuh," bawled Moran. Lopez swung around to face Charlie.

"I heard you coached a football team once," he remarked, pleasantly.

"That I did. Centre College of Danville, Kentucky. Beat Harvard. They called us the 'Praying Colonels,'" bragged Moran.

"What were they praying for?" grated Lopez, "a better coach?"

That did it. Moran thumbed him out of the game. Happily Lopez returned to the dressing room and a cooling shower-bath.

Pity the Poor Manager

Plenty of eyebrows were lifted when the Chicago White Sox traded Ed Lopat, one of the best southpaw pitchers in the American League, to the New York Yankees for catcher Aaron Robinson in 1948.

Ted Lyons, who was the Sox manager at the time, explained that his club was desperate for hitters. And Robinson was a long-ball slugger. So a tale went the rounds about the White Sox scout who watched a high school baseball game wherein the pitcher for one club tossed a no-hitter. The scout dashed to the nearest telephone, called Lyons, and panted:

"Just saw the greatest pitching prospect since Walter Johnson. This kid—he's way over six feet and rugged—not only pitched a no-hit game, but he struck out 27 men in a row. As a matter of fact, until the ninth inning, nobody even got a loud foul off him."

Argued Lyons:

"To hell with the pitcher. Sign up the boy who hit the foul ball."

Out of This World

Handsome hitter though he is, Bob Brown of the Yankees has earned so high a reputation as a doctor that "Yogi" Berra calls him "the only man in baseball who takes time off in the summer to play for fun."

He isn't alone.

Bosox owner Tom Yankee bought the entire Louisville franchise (American Association) mainly to get one player's contract. That player was shortstop "Pee Wee" Reese.

Time passed; and Yankee's playing-manager shortstop, Joe Cronin, decided his legs were good for at least two more years. So Reese somehow found himself in the Brooklyn Dodger's chain gang. Brooklyn Scout Ted McGrew, who signed Reese, bragged about the kid phenom to the sportswriters when they arrived at the Dodger spring camp.

"Reese will tear this league apart," predicted McGrew (and he did, later).

After this build-up the sportswriters were quite unprepared for what they saw.

Reese is a little fellow. Weighs around 165. Unprepossessing from any angle. Furthermore, he had worked all winter as a store clerk. When he appeared at the Dodgers' training camp, he was so pallid—in comparison with his tanned, healthy, muscular mates—that he looked positively ill. The sportswriters gazed at him unbelievingly.

"When did he get out of prison?" they unisoned.

Branch Rickey Is One-In-a-Million

Shrewdest judge of talent in baseball history, Branch Rickey wastes little time on rookies for whom he sees no future. One such, having done poorly in batting practice at Vero Beach, asked the Mighty Mahatma

for advice.

"I seem to be under-cutting the ball, sir. I'm under the pitch just an eighth of an inch, I'd say. What would you recommend?"

Rickey shifted an unlighted cigar to his left-side bridgework.

"Put innersoles in your shoes," he poker-faced.

Smartest man the baseball business has ever seen—Branch Rickey, of course. There's just one class of men the Mahatma doffs his hat to when it comes to financial finagling. Politicians.

Rickey learned this lesson early. In his first year as a Cardinal's executive he tried to save money by issuing no more free passes except to the press. Within a week after this news got around, the City Council announced plans to run a new street through the middle of the ball park. They got their passes.

Scientific aptitude-testers, had they been in existence when Branch Rickey was a boy, probably would have advised him to be a lawyer, preacher, banker, professor . . . or to follow almost any line of endeavor other than a baseball career.

A model of deportment, and a cultured repository of wisdom, his speeches have been likened unto a cross between Supreme Court Justice Oliver Wendell Holmes and Henry Ward Beecher. No wonder Rickey is treated with fearful respectfulness by all who work in his farflung organizations.

Example: Having toured and gimleted his farm clubs, Rickey dispatched a flock of telegrams to all their respective managers. These telegrams contained specific instructions, asked questions, and adjured the recipients to answer briefly.

Taking Branch at his word, the Fort Worth manager wired back:

"Yes."

Unable to recall what he'd asked the Fort Worthian, Rickey telegraphed:

"Yes, what?"
"Came the reply:
"Yes, sir!"

Every American Family...
NEEDS A SECOND, SMALLER REFRIGERATOR
FOR THE HOME • OFFICE • COTTAGE • BOAT •
RECREATION ROOM • SMALL APARTMENT, ETC.

MARVEL Specialized REFRIGERATOR
WILL MEET THIS CONSUMER DEMAND 100%
The Result of 13 Years of
Refrigeration Engineering

You can make extra profits when you add the MARVEL 400 to your present lines. There's a bigger market than you may realize for a really good 4-foot unit.

Requires only 23" x 20" floor space. Door opens full 90° even when unit is smack against the wall. Requires no side or back ventilation. Tecumseh hermetically sealed compressor. Underwriters approved!

Needed by doctors for refrigerating penicillin, sulfa, etc. Make multiple sales to apartment houses—both original equipment and replacements—cottages, resorts, etc.

The ideal second refrigerator for the home—recreation room, shop, home bar.

Write FOR DEALER LITERATURE!

MARVEL INDUSTRIES, Inc.
Sturgis, Mich.

Second Request ATTENTION MANUFACTURERS' REPRESENTATIVES!

As an industry service, AIR CONDITIONING & REFRIGERATION NEWS has maintained a file of manufacturers' representatives in all parts of the country and in some foreign countries.

We would like to check our files and expand this service by having qualified manufacturers' representatives serving the refrigeration, air conditioning, and allied industries send us the following information on their own letterheads:

1. Complete name of company or individual with correct address and phone number.
2. Lines and products now carried. (It is not necessary to list manufacturer represented if not desired.)
3. Lines and products you are adding or will be interested in adding.
4. Territory covered by states, parts of states, or countries.

Please send the above information to

AIR CONDITIONING & REFRIGERATION NEWS
BOX RP-A, 450 W. FORT ST., DETROIT 26, MICHIGAN

Your cooperation and promptness in answering the above questions will be greatly appreciated.

for Domestic, Commercial
and Low Temperature Cabinets

NATIONAL LOCK

**refrigerator
hardware**

standard and custom-built designs . . .

SURFACE TYPE HARDWARE

"THRU-THE-DOOR" HARDWARE

EDGE-MOUNTED HARDWARE

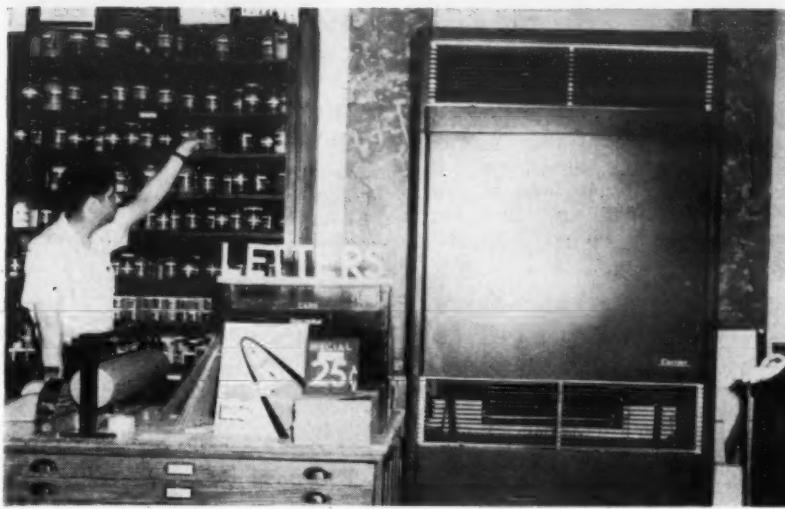
PLASTICS

DIE CASTINGS

SCREWS AND BOLTS

ask us about them

NATIONAL LOCK COMPANY
Rockford • Illinois
Refrigerator Hardware Division



BROWSING EASIER: Units at Philadelphia Art Supply Co. encourage patrons to take their time in purchasing art supplies.

2 Air Conditioners Spur 'Impulse' Sales at Phila. Art Supplies Store

PHILADELPHIA—A 15% rise in sales has followed the installation of two packaged air conditioners in the Philadelphia Art Supply Co. store in the downtown section here.

Impulse sales account for a good share of the store's business, according to Sol Lipshitz, store manager, and the air conditioned atmosphere has had a direct effect on increasing sales of this nature.

Lipshitz has found that art supply customers usually drop in for particular items that they need, but are easily persuaded to look around in the cool atmosphere and are open to suggestions from the clerks.

"A great deal of our business is done in gift merchandise," Lipshitz declared. Particularly around Christ-

mas, Easter, school graduations, birthdays, and holiday periods, customers come in looking for unusual gifts—such as drawing sets, painting outfits, and artist materials.

One of the air conditioning units—a 7½-ton G-E—is located in the store itself and the other, a 3-ton job, was placed in the rear part of the building which is used for storage and office operations.

The air conditioning units have also benefited our sales personnel," Lipshitz asserted. "They have more patience with our stock handling and displays, and are more willing to make suggestions to customers. Air conditioning has certainly proved to be a boon for our art supplies business."

Dealer Pushes Cleaning, Storing of Room Coolers Again This Winter

OMAHA, Neb.—Pawl Engineering Corp., York Corp. dealer here, is repeating a promotion which proved successful last year in Omaha, entailing the storage and servicing of room coolers for the winter season.

The promotion is being carried on through direct mail and newspaper advertisements, suggesting to room cooler owners that they have their unit removed this winter to prevent damage to the unit from smoke and freezing.

The "packaged" service operation which the Pawl corporation performs for a flat fee of \$36 includes careful removal of the cooler, storage in clean, heated quarters, cleaning of the unit along with testing and adjustment as necessary, and finally, reinstallation of the cooler in the spring at a date to be specified by the customer. A slightly higher charge is made on console type units.

Prospective customers are assured that the work will be done by trained refrigeration men. The unit also is insured while in the Pawl corporation's possession.

Anderson, of M-H, To Work on Atomic Energy Research Committee

MINNEAPOLIS—Raymond O. Anderson, assistant director of research, has been designated by Minneapolis-Honeywell Regulator Co. as its representative in an atomic energy study program for industry being sponsored by the Atomic Energy Commission.

Anderson is leaving for a year of atomic energy research at the Knolls Atomic Power Laboratory, operated near Schenectady, N. Y., by General Electric Co. under a contract with the U. S. Atomic Energy Commission.

Anderson will be considered a Honeywell employee during his year of work on atomic energy projects being carried on at the Knolls lab under Atomic Energy Commission sponsorship. This will be done under an AEC plan through which "interested segments of American industry" are invited to send representatives to undertake such work in a program aimed at developing commercial uses for atomic energy.

Contractor Even Sells Cooling To Oil Companies for 'Man-Made' Islands

LAFAYETTE, La.—If the probable reward is sufficiently inducing, man will risk anything and find a way to surmount any difficulties.

There is "black gold" under the seas and the probable rewards for getting it out are unlimited; but drilling an oil well far out beyond the horizon requires unusual techniques and involves a risk to life and property unknown to land drillers.

Since the drilling operation requires a firm, steady base, the deck of a vessel is unsuitable, but man-made islands have proven satisfactory.

Off the coasts of Texas and Louisiana, more than 25 miles out into the Gulf, these man-made islands are growing in size and increasing in number. They provide quarters for three crews who drill round the clock, together with such other facilities as are required.

The living quarters for the crews are of steel, well insulated and kept comfortable on the hottest days by a model 701 (7-hp.) "Yorkaire" air conditioner manufactured by York Corp., and installed on each separate set of quarters.

One such island is owned by Superior Oil Co., which operates out of Lafayette, La., and represents an investment of about \$2,000,000. The York air conditioning and refrigeration equipment was installed and is serviced by Butcher Refrigeration Co. of Lafayette, La.

Refrigeration Units WANTED

Desire to purchase $\frac{1}{8}$ to 1-HP Sealed or open type; standard brands; Complete condensing units; Also parts; Give full details.

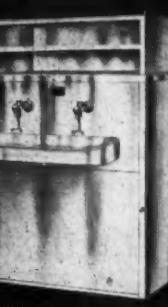
HARWOODE EXPORT CO.
31 E. 4 Street, New York 3, N. Y.

Manufacturers of Coolers & Filters for over 40 Years

Filtrine
HIGH EFFICIENCY

Costs no more
Gives much more

Service
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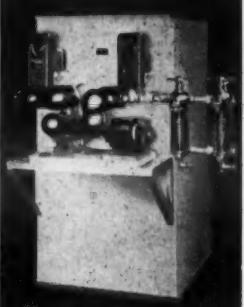
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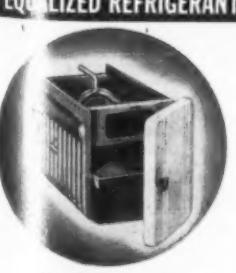
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CROWDED ROOFTOP: How air distribution for the large Marine Dining Room of the Edgewater Beach hotel in Chicago is arranged is shown in this photo of the roof. At upper left is one of the two 25-ton air-handling units supplying air through insulated and weatherproofed ducts to eight ceiling diffusers. Each unit rests directly over a small skylight through which it picks up recirculated air. At the time photo was taken workmen were preparing to build a protective housing for air units.

All these problems were solved. As for speed, the contract was placed on May 1. By the end of June the systems for the North and South dining rooms were in operation, and on July 8 the 50-ton system for the Marine room was turned on. And on only two days was it necessary to close the Marine room, and at that only for breakfast and luncheon. Dinners were served straight through.

HOW PROBLEMS WERE SOLVED

An outline of the systems will show how the other problems were handled.

The 50-ton direct-connected "Freon-12" Carrier condensing unit for the Marine room is located in a basement liquor storage room near the dining room. From this, insulated liquid and suction lines are carried up outside the building to two McQuay air-handling units with six-row direct expansion coils located on the roof of the dining room itself. The lines are insulated together for a considerable distance to provide a heat exchange effect.

Large ducts run across the roof from each air-handling unit feeding four Connor Kno-Draft diffusers which have been inconspicuously set in the 18-ft. high ceiling of the Marine room. Because of the several large chandeliers and other features of the ceiling, the eight diffusers were located geometrically to give a pleasing effect in addition to proper air distribution.

It was also necessary, of course, to avoid the huge skylight of the dining room which runs on tracks. Formerly it was the custom to pull back the skylight completely during good summer weather, leaving the center section of the dining room roofless.

With air conditioning there will be no occasion to shift the skylight, which can now move only 6 to 8 ft. without interfering with the duct-work and piping installed on the roof.

The large supply ducts on the roof are insulated with 2 in. of cork and coated with waterproof cement so they'll stand up under weathering.

Incidentally, it was cutting the eight holes through the roof that forced closing the dining room for those two relatively short intervals. In this operation the installers ran into a rare bit of luck, according to Kristufek.

"Existing blueprints showed the

ceiling of dining room as being 15-in. thick solid concrete. When we got into it there was 10 in. of tile and only 5 in. of concrete," he recalls.

HOTEL 'WARNINGS' TELL GUESTS WHAT'S HAPPENING

Another interesting aspect of this particular part of the job is the way the hotel management warned its guests of this operation just before it began.

"If you hear a bit of drilling this Thursday and Friday," the message to guests read, "please forgive it and know that it is just Edgewater Beach hotel getting ready for a wonderfully cool summer by air conditioning the Marine room . . . for your ultimate comfort."

"Unfortunately, there is no noiseless way to drill through 15 in. of concrete . . . part of the installation . . . and we just can't resist going ahead with these wonderful plans right away so that we can be ready to make your summer with us more delightful than ever."

"So . . . if bedlam breaks loose Thursday and Friday . . . please excuse it. Remember . . . when Old Sol sends the mercury soaring in a few weeks, it'll be easy to forget a few hours of putt-putt-tuts."

The message went out over the name of P. J. Weber, general manager.

Folded cards had also previously been placed on the tables in the Marine room to explain what was going on:

"Surprise! We've had a secret . . . but now we're ready for the whole world to know. Our beautiful Marine room is in the process of air conditioning!!!! So, if you find us a little disheveled for a few weeks, remember . . . we're mortified that you should see our Marine room in anything but meticulous order . . . So, please go along with us for a while . . . and when summer finally gets here we'll meet it with the gracious coolness you'll appreciate."

Return air arrangement for this room is also somewhat unique. On two sides of the roof over the dining room, which is roughly in the shape of a pentagon, there were two smaller skylights. Each air-handling unit was located directly over these skylights so that return air is brought straight to the units. No ductwork is involved.

The system for the dining room is set to bring in 25% fresh air—

(Concluded on next page)

Fitting In Ductwork, Air Conditioners at Edgewater Beach Hotel Poses Big Problem

By C. Dale Mericle

CHICAGO—Long famed for its elegance, cordiality, and good food, the Marine Dining Room of the Edgewater Beach hotel here now has air conditioning as another major attraction.

A 50-ton system has been installed by Talbert-Thomas Co., Chicago distributor and contractor, for the dining room, and, in addition, 55 tons of air conditioning have been provided for the adjoining North and

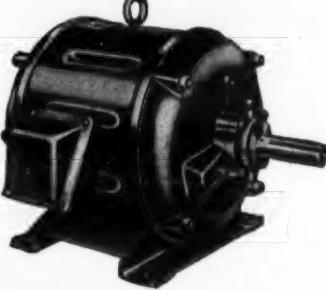
South dining rooms while 23 tons of package equipment take care of several meeting rooms at the south end of the hotel. The system for the famous Yacht Club bar has been modernized, too.

Several problems were involved in laying out these installations, point out I. J. Kristufek, sales manager of Talbert-Thomas, and Frank DuGene, operating manager of the hotel.

Probably most important was the necessity for making the installation blend inconspicuously with the elaborate decorative scheme which predominates all three dining rooms. It was advisable, too, that interference with dining room operation be kept at a minimum, and that the job be speedily completed. With respect to the package unit installations for the meetings rooms, prime problem was finding space for the equipment.



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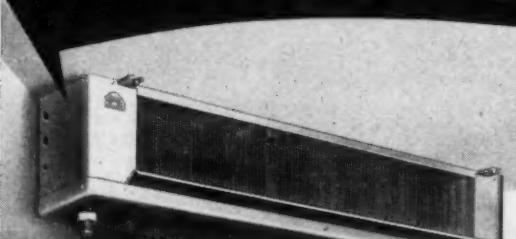


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In the Marine Dining Room . . .

VALANCES MOVED OUT: The large, white decorative valances on two sides of the Marine Dining Room were moved out about 2 ft. to provide space for supply ducts to North and South Dining rooms at the Edgewater Beach hotel. In ceiling at extreme right is small skylight handling return air to air unit directly overhead on roof.



. . . and the Meeting Rooms,

BATHTUB TAKEN OUT: Space being a premium in the meeting rooms of the Edgewater Beach hotel, Talbert-Thomas, air conditioning contractor, installed package conditioners in bathrooms after removing the bathtubs.

The Big Problem Was Space

(Concluded from preceding page)
4,000 c.f.m. out of the 16,000 c.f.m. delivered.

Steam tempering coils are also provided in the air circuit for winter ventilating operation. Actual winter heating will still be handled by existing radiation. Automatic dampers on the outside air intake will close when the temperature falls below 40° F. to prevent freeze-up.

The same applies to the two air conditioning systems provided for the North and South dining rooms which adjoin the Marine Dining room. Those familiar with the layout at the Edgewater Beach hotel know that these two smaller dining rooms are actually twin terraces for the Marine room. They can be closed off, however, for private parties, or left open to accommodate the overflow crowds from the Marine room.

Condensing units for these two dining rooms are located in small adjoining rooms, a 25-ton Carrier machine and a McQuay air unit serving the North dining room, a 30-ton Carrier and McQuay unit, the South. Although both rooms are almost identical in size and shape, extra capacity was provided in the unit for the South room because it also supplies air to a corner terrace of the Marine room.

Major problem here was running the air supply duct from each unit to assure adequate air distribution throughout each dining room. Exposed ceiling beams would interfere with ductwork and air throw if the duct were brought down the center of the ceiling, so that was out.

Instead, the solution was found in the ornamental valances between the two dining rooms and the Marine room. There was some space between the valence for the Marine room and those for the other two dining rooms which concealed the track for the accordion-plait sliding partitions.

The valance on the Marine room side was removed and supply ducts extended the full length of the two dining rooms for each unit. When placed back in position next to the duct, the valance, of course, was some 2 ft. farther out than before, but this is not noticed by an observer unless the fact is pointed out to him.

In the North and South dining rooms openings for grilles were cut through the valances to connect to the supply duct. Return air is handled through large grilles in the wall of the machinery room in the corner of each of these rooms.

Controls for all three systems are

Barber-Colman, the North and South rooms having thermostats controlling the condensing units directly. For the Marine room, thermostats located within the space control solenoids in the liquid lines leading to the air-handling units. The fan is manually controlled.

All three condensing units powering the systems for these three rooms are provided with capacity modulation, and each is equipped with a 75-watt crankcase heater to prevent liquid slugging.

It was at the other end of the Edgewater Beach hotel that the five General Electric package air conditioners were installed to cool several meeting rooms. In a sense, history may have been made here, for one item that has long been a mark of this country's material progress and comfort has given way to a modern counterpart.

Specifically, bathtubs have been replaced by air conditioners. Originally, these meeting rooms were guest rooms and as such were provided with the usual bathroom facilities. No change in these was made when the rooms were converted some years ago into their present use. Space, however, was at a premium when it came to locating the package air conditioners, and since bathtubs are not as a rule used during meetings, these had to go.

Ductwork is employed to distribute the air properly from the units. One 5-hp. machine supplies the Berwyn room, another the American room. The Lincoln is cooled by two machines. There's a 3-hp. unit handling one end of the room, while the other end is cooled by a 5-hp. conditioner that is also supplying air to two smaller meeting rooms. The fifth unit, a 5-hp. machine, cools the

Illinois room and two small rooms.

Installation of a new 20-ton condensing unit and some changes in the air handling system were involved in modernizing of the system serving the Yacht Club bar on the lower level.

These current installations, incidentally, mark the second year in a row that Talbert-Thomas has installed air conditioning for this hotel. Last year, 30 tons of air conditioning were put in to cool eight specialty shops and promenade on the lower level, and another 15 tons for the barber shop and drugstore.

Line's Refrigerated Ships Taken Off N.Y.-Fla. Run

NEW YORK CITY—The Refrigerated Steamship Line, a subsidiary of the United Fruit Co. has withdrawn its ships from New York to Florida trade for the 1950-51 season, Ralph Keating, president of the line, announced recently.

Keating attributed the move to the current international uncertainties which may affect the availability of ships for American domestic trade.

The line carried 128,000 tons of fresh fruit and vegetables and frozen and liquid fruit juices from Fort Pierce and Jacksonville to New York City last year. This was the first full operating season it has had since the end of World War II.

During this last season, it handled 43% of the Florida citrus fruit production sold in the New York auction market.

The Jacksonville Precooling Co., a subsidiary of the line, will continue to handle cooling and storage of perishables for the fruit industry.

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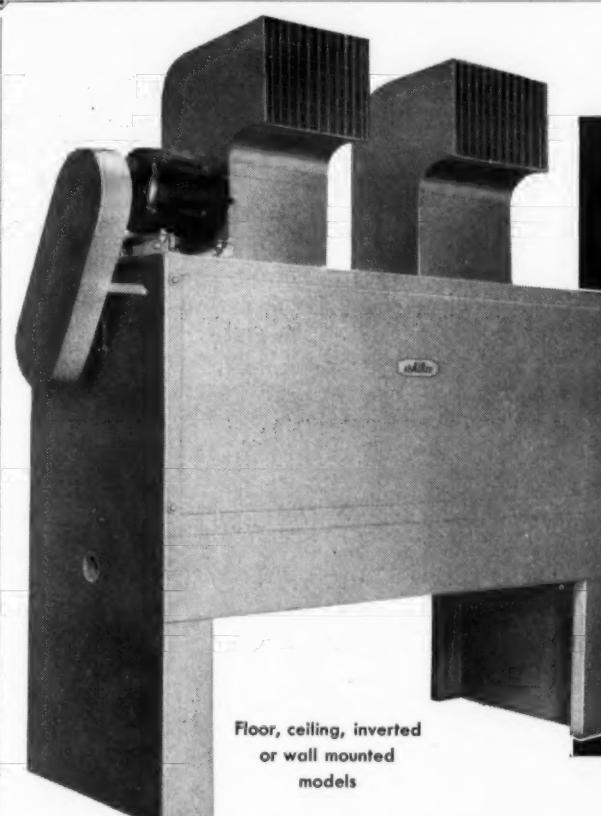
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Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: \$5.00 per year; 2 years \$8.00. All other foreign countries: \$7.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Please send remittance with order.

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VOLUME 61, No. 5, SERIAL NO. 1,124, OCTOBER 2, 1950

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

'Responsible Government' —Canadian Style

CANADA achieved "responsible government" a little more than 100 years ago.

What is "responsible government," as practiced in our great sister nation, Canada? Here's a brief outline:

The governing is done by a cabinet composed of men chosen by the Prime Minister, who, in turn, is invited by the Governor-General to "form a government." The Governor-General selects for this designation the man nominated by the party which controls the majority of votes in the House of Commons.

This form of government organization is truly "responsible" because, as a practical matter, no legislation can be enacted unless it is favored by the cabinet and, conversely, no legislation can be denied by Parliament if the cabinet wants it.

Thus, there can be no doubt in any voter's mind, if things do not go well in the country, as to who is responsible.

Minorities or recalcitrant party members cannot be blamed, because the Canadian system seldom allows screwballs to gain positions of power (as, for instance, sometimes happens with seniority-right Committee chairmanships in the U. S. Congress).

Of course, the Canadian cabinet is not all-powerful. It knows enough not to insist on legislation which cannot command a majority vote.

On the other hand, if the majority should fail to respond to cabinet leadership, it is always the prerogative of the Prime Minister to dissolve a Parliament and call for a general election—so that the voters can decide between the cabinet and the majority in Parliament if an issue arises between them.

The Dominion of Canada was accorded the Parliamentary form of government in 1791, but it was not until 1848 that the government became fully "responsible," in the form outlined above.

For the past 100 years the government of Canada has grown more autonomous (i.e., independent of interference from Britain) to the point where the Dominion is now a completely independent nation. This fact has been formally recognized by the British government.

At the time of World War I Canada participated much as if it were an appendage of the United Kingdom. At the outbreak of World War II, however, President Roosevelt listed the known belligerents in a public statement, and omitted Canada from the listing until the Dominion Parliament, itself, had declared war.

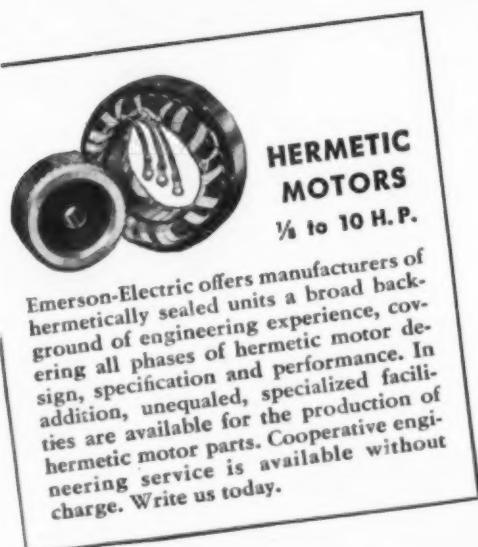
Canada suffered more casualties in the recent war than the state of New York did, despite New York's larger population. Furthermore, Canada's contribution to "lend lease" was higher than the per capita contribution of the U. S.

The Dominion of Canada doubtless could rearrange its affairs to get along without the commerce with the rest of the world, but this solution would "be inconvenient." Accordingly, the Dominion has decided to do all it can to help in the rehabilitation of the rest of the World and in the re-establishment of international trade.

Canada and the United States, with their great resources, "won the last two wars" and we have a vital interest in preventing further conflict. Of the two governments, Canada's appears to be more stable. We Americans have everything to gain and nothing to lose by collaborating more effectively with our strong neighbor to the North.



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Court Denies Rehearing In Thor-Mayflower Dispute

PHILADELPHIA — Thor Corp.'s petition for a rehearing of its dispute with Mayflower Industries, Inc., was recently denied by the U. S. Circuit Court of Appeals here.

The court had previously declined jurisdiction in the action brought by Mayflower to regain its Thor franchise and collect damages for breach of contract from the manufacturer. The Federal court had sent the case back to New Jersey courts for decision.

Thor now has 90 days in which to petition the U. S. Supreme Court or a review of the circuit court's decision.

Trade-Ins Featured In Outdoor Display by N.Y. Appliance Retailer

HAMBURG, N. Y.—A specially built canopy fronting on a parking lot at the rear of its store provides Smith Bros. Hardware Store with an excellent display spot for used appliances which are accepted on trade-ins.

The canopy provides shelter from rain and sun during the spring, summer, and fall seasons although it is too open for use during the cold winter months. It is located in an excellent spot to catch the eye of passing traffic as motorists must pass this point to get to the town's main shopping center, after parking their cars in the large public parking area.

At the top of the canopy is a colorful sign reading "Smith Bros. Hardware." The store's rear entrance leads directly from the canopy into the store, another important traffic factor.

Smith Bros. has its new appliance display section in the front of the store.

Another advantage of the used appliance display at the rear is that it segregates these items from the new merchandise and in no way detracts from the regular new business.

Used appliances taken on trade-ins are set up in a straight line display under the canopy, each bearing its own price tag.

Florida Construction Contractors Form Employers' Council

JACKSONVILLE, Fla.—Air conditioning, refrigeration, and ventilation contractors have joined with contractors in other fields of construction in forming the Jacksonville Construction Employers' Council.

Similar to groups already functioning in New Orleans, Miami, and Mobile, the new Jacksonville organization aims to provide for its membership public acceptance and confidence; to enable contractors as a body to take concerted action in cases of mutual interest to segments of the industry; and to provide planning, research, and coordination for the membership.

Besides contractors engaged in air conditioning, refrigeration, and ventilation, membership in the council includes general contractors and contractors in the fields of plumbing and heating, roofing, electrical wiring, tile and marble laying, sheet metal, structural and reinforcing steel erectors, plastering and acoustical contractors, and painting and decorating and glass contractors.

Ira Koger is president of the new group; Mark V. Costello, vice president; Harry Goodwin, secretary; and T. E. Satchwell, Jr., is council treasurer.

Recipe Column Nets Dealer Extra Sales

CULLMAN, Ala.—A column of recipes contributed to the Cullman Tribune by its home economist and the offer through the column of a weekly prize of \$3 in merchandise for the best recipe brought or mailed to the store has rung up sales for the Home Improvement Co., which is located here.

Ann Fehler, who demonstrates and sells appliances for the General Electric dealership, writes the column, which is called "Recipes from Ann's Cook Book."

She also includes in the column the best recipes submitted by her readers.

The store management claims that judging by sales billed, Miss Fehler more than pays her way.



Custom-built refrigerator in the Union Station Restaurant, Denver, is located in center of dining room. Built to blend with decor, it doubles as serving table and refrigerated storage space.

R. R. Station Refrigerator Speeds Service

DENVER — One of the West's most unusual custom-built refrigerators is saving waitresses many steps in the beautiful new Continental Room of the Union Station Restaurant in the Denver Union depot here.

Built for the restaurant by Ludwig-Patterson, Inc., Denver commercial refrigeration engineer, the refrigerator serves many purposes while blending in with architectural decor.

The refrigerator is of rectangular construction, veneered throughout with blonde oak, and matches wood-work in the wainscoting and trim of the 95-patron restaurant. It curves around the base of a central pillar.

The unit is 8 ft. long and 36 in. high, with a 4-ft.-wide Formica top. The latter provides a place for waitresses to set water pitchers, trays, and silver.

On each side of the refrigerator are two reach-in drawers, in which dairy products, salads, cold desserts, etc., may be kept at temperatures from 38 to 45°.

An interesting innovation is two pullout drawers, over each reach-in compartment, which contain 200 pats of butter, kept in perfect condition at a temperature of 45°.

A combination of cold plates and circulating chilled air provide the separate temperatures in each compartment. One compartment may be brought down below freezing, if desired, to serve as a handy storage spot for extremely perishable foods and desserts.

A 1/2-hp. condensing unit located in a loft outside the walls of the restaurant provides refrigeration for the refrigerator.

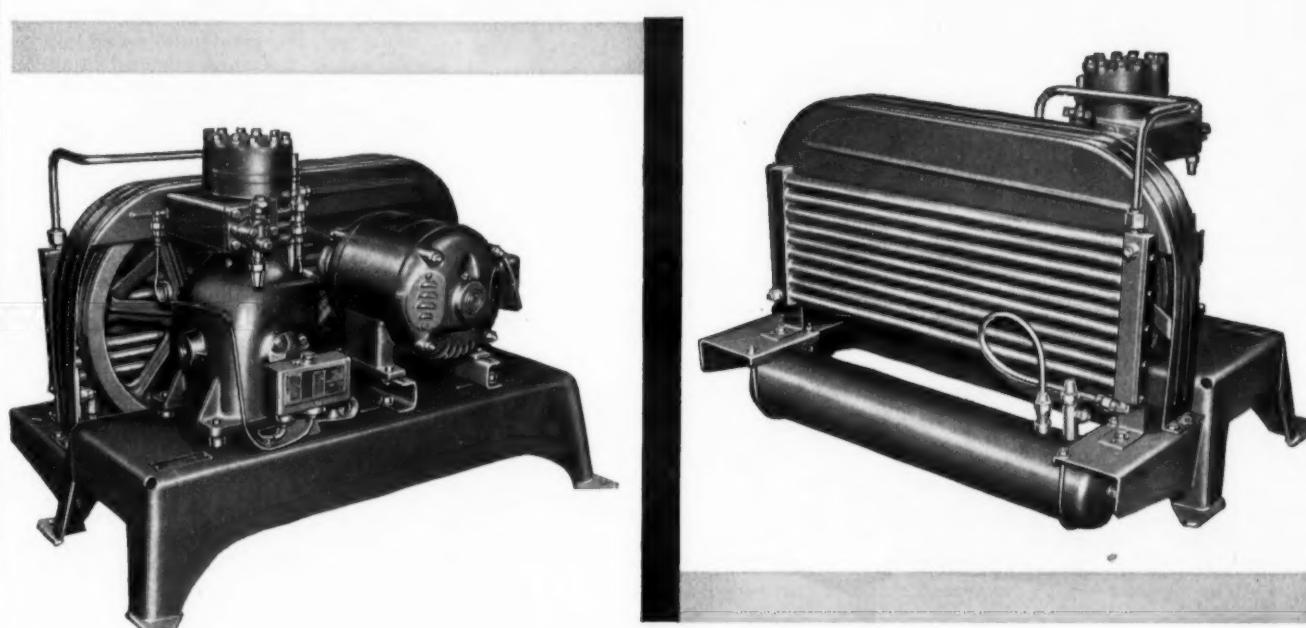
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NEW

WATER-COOLED MODELS
by Universal Cooler



CLEANABLE, DOUBLE-TUBE, COUNTER-FLOW CONDENSERS

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exchange relationship and the greatest possible distance of travel within the condenser.

COUNTER-FLOW action between refrigerant and cooling water provides greatest possible efficiency in heat-exchange relationship.

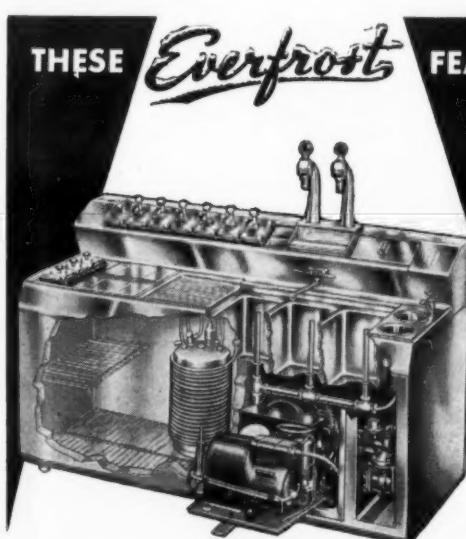
FOR DIFFICULT JOBS where refrigeration units must operate in crowded locations and with little or no air circulation.

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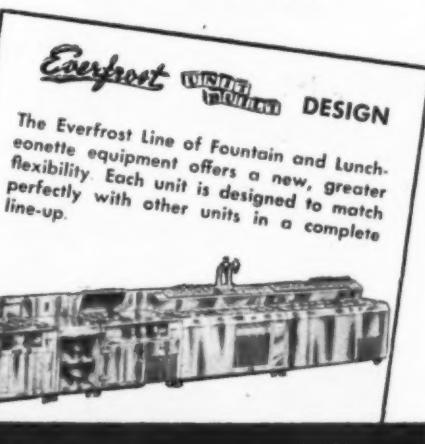
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Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Air and Humidity (2)

In the last paragraph of the previous discussion, we had water vapor in the air at a vapor pressure of .739 inches of mercury, which from the steam tables is the pressure at which water boils at 70°. Putting it in terms that we use in connection with refrigerants, the boiling temperature of water at .739 inches of mercury absolute (29.182 inches of vacuum or .363 p.s.i.a.) is 70°.

Also as with refrigerants, we know that the boiling temperature at a certain pressure is the same as the condensing temperature at that pressure. That is, if we have water at .739 in. hg. (inches of mercury) and at 70°, and we add heat in an attempt to warm it, the water boils to a vapor at the same temperature and pressure. Or if we have a water vapor at a pressure of .739 in. hg. and at a temperature above 70°, and we remove heat and cool the vapor, the vapor will condense when it is cooled down to 70°, for 70° is both the boiling and condensing temperature of water or water vapor at .739 in. hg.

DEWPPOINT TEMPERATURE IS CONDENSING TEMPERATURE OF WATER VAPOR

In mixtures of air and water vapor, we use the term "dewpoint" instead of the term condensing temperature, but both mean the same thing.

For example, suppose that there is a glass of water sitting on a table in a room in which the vapor pressure of the moisture in the air is .739 in. hg. The air in the room is at 90°. (We call this the "dry bulb" temperature, and it is the temperature of air that we usually refer to.) Since the vapor pressure of the moisture in the air is .739 in. hg. and this vapor pressure corresponds to 70°, the moisture in the room is superheated 20° to 90°, for the moisture is naturally at the same temperature as the air with which it is mixed. The moisture at 90° is therefore superheated 20° above the boiling or condensing temperature of 70°.

By some means, such as slowly adding a little cold water or ice to the water at 90°, we gradually cool the water in the glass and the surface of the glass, also. Finally, when

we get the glass down to 70°, the moisture (water vapor) in the air around the glass, begins to condense on the 70° glass, and we sometimes say that the glass is "sweating." It is not "sweat," for that would mean that the drops of water on the outside of the glass came through the pores of the glass from the water in the glass, just as human beings perspire.

GLASS SWEATS AT DEWPPOINT TEMPERATURE

The "sweat" on the outside of the glass came, not from within the glass, but from the water vapor condensing out of the air on to the cool glass.

When we are dealing with moisture in the air, we call this temperature at which the vapor starts to condense out, in this case 70°, the Dewpoint Temperature.

From this we can also see that the vapor pressure of the moisture in the air is controlled only by the dewpoint temperature and not by the dry bulb temperature. If we know the dewpoint temperature, we merely look up that temperature in the saturated steam tables and find the corresponding pressure which is the vapor pressure of the moisture in the air at that dewpoint temperature.

WATER VAPOR ABOVE DEWPPOINT IS SUPERHEATED

We know then that the dewpoint temperature of 70° is the saturation temperature; that the vapor pressure is .739 in. hg., which corresponds to 70°; and that the room air is 90°. Therefore, the vapor in the air must be 90° also, so that moisture vapor must be superheated.

We know that a superheated vapor keeps the same pressure as it had when it was saturated; that is, the vapor pressure remains at .739 in. hg. even at 90°. (This is not strictly true, but the small difference can be neglected for this purpose.) Therefore, the vapor pressure of the vapor at 90°, superheated 20° above the dewpoint temperature of 70°, is the same as the vapor pressure corresponding to 70°, which is the dewpoint or saturation temperature.

If the room temperature (dry bulb temperature) is 90° and the dewpoint temperature is 70°, the air in the room could hold more moisture. It is saturated at 70°, but it would mean adding more moisture to saturate the air at 90°. If we spray in more moisture at room temperature until we finally got it saturated with moisture at 90°, then the dewpoint temperature will gradually have risen to 90°, that is 90° would then be the dewpoint temperature.

With the dewpoint at 90°, the vapor pressure will have gone up to correspond to 90° instead of 70°. A vapor pressure corresponding to 90° is 1.4215 in. hg. or .6982 p.s.i.a.

So a room with a dry bulb temperature of 90° and a dewpoint temperature of 70° could hold a good deal more moisture. Its dewpoint is only 70°, but if the 90° air were saturated with moisture, the dewpoint would be 90°.

WHAT RELATIVE HUMIDITY IS

Putting it another way, the vapor pressure is .739 in. hg. correspond-

ing to 70° and it could be 1.4215 in. hg., which is the vapor pressure corresponding to a 90° dewpoint. The vapor pressure could be 1.4215 in. hg. corresponding to a 90° dewpoint, so .739 divided by 1.4215 is 52% which is called the Relative Humidity. So Relative Humidity is the per cent that the actual vapor pressure is at the dewpoint temperature, of what it could be at dry bulb temperature. Relative humidity is easy to calculate; just divide the vapor pressure corresponding to the dewpoint temperature by the vapor pressure corresponding to the dry bulb temperature. Both of these vapor pressures can be found in the Saturated Steam Tables.

The term Relative Humidity is usually thought to be the ratio of moisture actually in the air to how much moisture could be in the air. From the above, we see that Relative Humidity is the ratio of vapor pressure actually in the air, of what the vapor pressure could be if the air were saturated with moisture. It is the vapor pressure at dewpoint temperature divided by the vapor pressure at dry bulb temperature corresponding to saturation.

PERCENTAGE HUMIDITY IS RATIO OF MOISTURE

Although Relative Humidity is popularly thought to be the ratio of the amount of moisture actually in the air, to the amount of moisture that could be in the air, that is what is called Percentage Humidity. It is found by dividing the actual weight of moisture in the air by the weight of moisture that could be in the air at that dry bulb temperature, and it is not based on the volume of air in cubic feet.

Percentage Humidity is based on the weight of moisture in one pound of dry air, and is found by dividing the weight of moisture per pound of dry air at dewpoint temperature by the weight of the saturated vapor in one pound of dry air at dry bulb temperature.

The Relative Humidity and the Percentage Humidity are about the same amount. For example, the Percentage Humidity at 70° dewpoint temperature and 90° dry bulb temperature is 50.7% as compared to the Relative Humidity of 52%.

ABSOLUTE AND SPECIFIC HUMIDITIES

There are two other terms that are used in connection with humidity. One is Absolute Humidity and the other is Specific Humidity. Neither of these is a percentage; they refer to the actual weight of the water vapor in the air.

Absolute Humidity is the weight of the water vapor in one cubic foot of dry air, and Specific Humidity is the weight of the water vapor in one pound of dry air.

They are, of course, based on the dewpoint temperature. Specific Humidity can be found directly in the Psychrometric Tables, which are tables that give properties of mixtures of water vapor and air. They are made by adding into the ordinary steam tables the values for the air as well as the water vapor.

At 70° dewpoint temperature, the Specific Humidity is shown as 110.4 grains of water per pound of dry air. At 90° dewpoint, the specific humidity is shown as 217.6 grains of water per pound of dry air. (110.4 ÷ 217.6 = .507, which is how the 50.7 Percentage Humidity was arrived at in the above paragraph.)

The weight of water in one pound of dry air at a dewpoint of 70° was given in grains of water. There are 7,000 grains of water in a pound of water, so 110.4 grains would be .0158 of a pound or about ¼ of an ounce. The weight of water vapor ordinarily in the air is so small that it is cumbersome to handle these small fractions of a pound, so the smaller unit, one seven-thousandths of a pound or one grain, is more convenient to handle as a whole number.

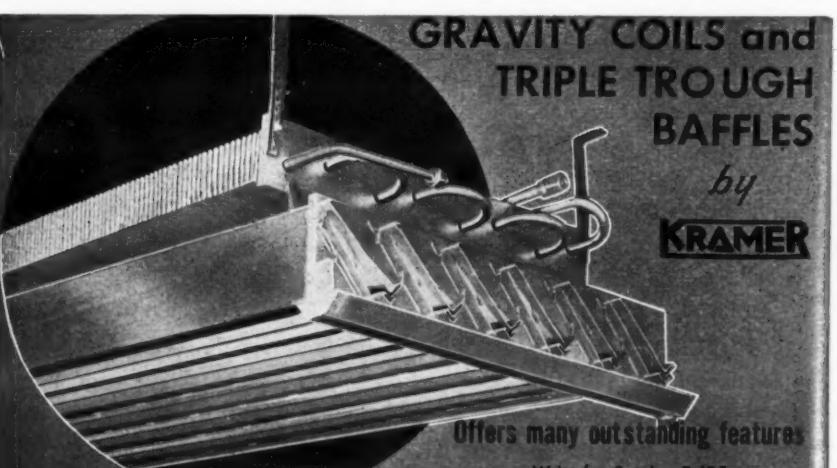
MOISTURE PER POUND OF CUBIC FOOT OF AIR?

In the Psychrometric Tables is also shown the volume in cubic feet of a one pound mixture of dry air and saturated water vapor, which is the condition at the dewpoint temperature. Since the Absolute Humidity is the weight of saturated water vapor in one cubic foot of air—water vapor mixture at the dewpoint, it is only necessary to divide the Specific Humidity by the Volume of the one pound mixture of dry air and saturated water vapor (saturated steam) to obtain the Absolute Humidity.

At 70°, for example, the Specific Humidity is 110.4 grains per pound, and the volume is 13.69 cubic feet per pound so 110.4 ÷ 13.69 = 8.06 grains per cubic foot or Absolute Humidity at a dewpoint temperature of 70°.

Gibson Declares Dividend

GREENVILLE, Mich.—A 40-cent extra dividend, and a regular 15-cent quarterly dividend, was declared, payable Sept. 28, 1950, by the Gibson Refrigerator Co. here.



KRAMER TRENTON CO. Trenton 5, N. J.

Save shopping all over town for the right replacement control. See the new RANCO REPLACEMENT REFERENCE No. 1244 right on your Ranco wholesaler's counter—or obtain a copy from him for your own files.

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CLUNKER ROW: Charles E. Chambers, owner of the Fix-It Shop, Toledo, poses beside a line of old refrigerators not worth fixing up for resale but which effectively attract attention to his small neighborhood store.

* * *

Estimate Repair Charge Right the First Time!

Veteran Serviceman Says Quoting Maximum Figure First Is Simple To Do, Forestalls Customer Complaints, Builds Repeat Appliance Business

TOLEDO—Making accurate price estimates the first time is the key to success in the appliance service business, maintains Charles E. Chambers, who has operated his own service shop here for 17 years.

"It's the simplest thing in the world to estimate a repair job and tell the customer right off the bat that it won't come to more than such-and-such a figure. If the customer accepts that figure and his bill is for that amount or less, he will be satisfied.

"But, somehow it is a tough proposition to get the servicemen to do that. They tend to give a low figure and then, when they find something else wrong, go ahead and fix it and add the charge to the customer's bill.

"Our servicemen have pretty well learned their lesson though. Whenever a customer complains about his bill, I take the serviceman out to the customer's house. I tell the customer and the serviceman to get together on the charge and any downward adjustment will come out of the serviceman's pay. It works.

Though Chambers' main business is in service, he also does a profitable job on selling new appliances.

As operator of the Fix-it Shop Appliance Center on Upton Ave., he does not do a large volume. But it is satisfactory to him. As Chambers puts it, "I would rather sell a small volume of appliances and make a profit on each sale than sell a large volume without any profit."

Though he handles a complete line of appliances, he concentrates more or less on washers. This is only natural since his repair shop—housed in a separate concrete block building at the rear of his property—services washers only and does a thriving business in them.

Chambers not only handles washer repairs brought in by his own efforts but does considerable repair work for other dealers on a contract basis. He has four servicemen and a supervisor taking care of the washer business.

The supervisor gets a salary plus percentage on shop volume and a percentage on sales leads. Servicemen are paid on an hourly basis. Once a year Chambers treats his employees to a baseball game and fishing party.

The servicemen, by gaining access to the home, bring in leads on prospects for new appliances. These are followed up by Chambers himself or by one of his men who does both sales and service. It is from these leads that Chambers derives most of his business.

Another source of business is street traffic drawn in by the unusual display of old "clunker" refrigerators and washers spotted on a cemented area outside the store.

At night the entire display is lit up by a string of lights stretched around the L-shaped cemented area. As an added "eye-catcher" a decrepit looking washer of ancient vintage is propped atop the corner pole.

Chambers leaves the "clunker" refrigerators outside all night long. He brings the washers inside after closing time.

The refrigerators are 10-16-year-old boxes taken in on trade and which have practically no intrinsic value," Chambers said. "I do nothing with them. Just set them outside. The only worth they have is in attracting the attention of passing traffic to the store. People see them, catch the name of the shop, and drop back later to look around. They are quite effective in that way.

"I get rid of them by selling them to anyone who wants to take them away—as is."

Chambers said that he does not do much refrigerator repair work any more. He says he would rather concentrate on washers.

A third potent source of business is his small appliance repair shop located in back of his small but attractive showroom. This shop is completely equipped with parts and tools for the repair of such items as toasters and irons.

Pad Kit Can Eliminate 75% Of Machinery Vibration

AKRON, Ohio—A new self-engineered rubber pad kit that will eliminate up to 75% of the vibration and shock caused by machinery has been introduced by the B. F. Goodrich Co. as the answer to single problems of industrial vibration too small to justify the use of technical personnel.

The Vibropad kit consists of a 12-in. square rubber pad, rubber tubes, thick washers, and an instruction booklet. It was designed specifically to enable the small plant owner with only two or three machines to install the pads under the legs of the equipment and save the cost of engineering and installation.

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THE ORIGINAL, PATENTED CROSS-FIN COIL

The refrigeration coil that changed the industry stands today unchallenged for performance, user satisfaction and lasting durability. Made from only the finest materials by skilled craftsmen under exacting standards, every Larkin Coil features imbedded fin-to-tube contact, swaged connection, silos welded construction, and staggered tubing. Write for complete details.

Manufacturers of the original Cross-Fin Coil—Hum-Temp Units—Evaporative and Air Cooled Condensers—Air Conditioning Units and Coils—Direct Expansion Water Coolers—Steel Vacuum Plate Coils—Heat Exchangers.



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Deepfreeze To Produce Refrigerators In Plant To Be Finished In Dec.

NORTH CHICAGO, Ill.—The new Deepfreeze Refrigerator plant, being built west of Lake Bluff, Ill., 2½ miles south of the present North Chicago home freezer plant, will be completed on Dec. 1, 1950, reports L. J. Sorensen, vice president and general manager of the Deepfreeze Appliance Div., Motor Products Corp.

Motor Products Corp., since Jan. 1, 1950, has been selling refrigerators, electric ranges, and water heaters as a new line. All of these products have been manufactured by other factories on a contract basis.

"The new refrigerator plant is a continuation of our expansion policy taken by the company toward making all of its own products. A \$5,000,000 refrigerator parts plant was recently completed in Marion, Ohio," the Deepfreeze executive said.

"We will have an investment between \$3,000,000 and \$5,000,000 in this new plant, including tooling," Sorensen continued. He will have charge of the North Chicago and Lake Bluff plants. Administration offices will be maintained in North Chicago for the time being.

When the new 300 by 863-ft. plant is finished, it will employ 500 people. New employees will be added as business increases. The North Chicago Deepfreeze factory was expanded in 1949, and presently employs more than 900 people.

The Deepfreeze Appliance Div. first manufactured the original Deepfreeze home freezer in 1938.

Follow Basic Principles Of Finance, Speaker Warns Chicago Contractor Group

CHICAGO—Important fundamentals of financial policy were analyzed recently for members of the Refrigeration and Air Conditioning Contractors Association of Chicago by H. E. Kroll, regional specialized report manager of Dun & Bradstreet, Inc.

Kroll emphasized that trouble lies ahead for any management which violates, knowingly or unknowingly, basic financial principles. Principles discussed concerning investments in fixed assets, the relationship of working capital to sales volume, and investment in inventories.

With an understanding of these principles, the speaker said, contractors will be able to recognize weaknesses among their customers and will, therefore, be in a better position to extend credit intelligently.

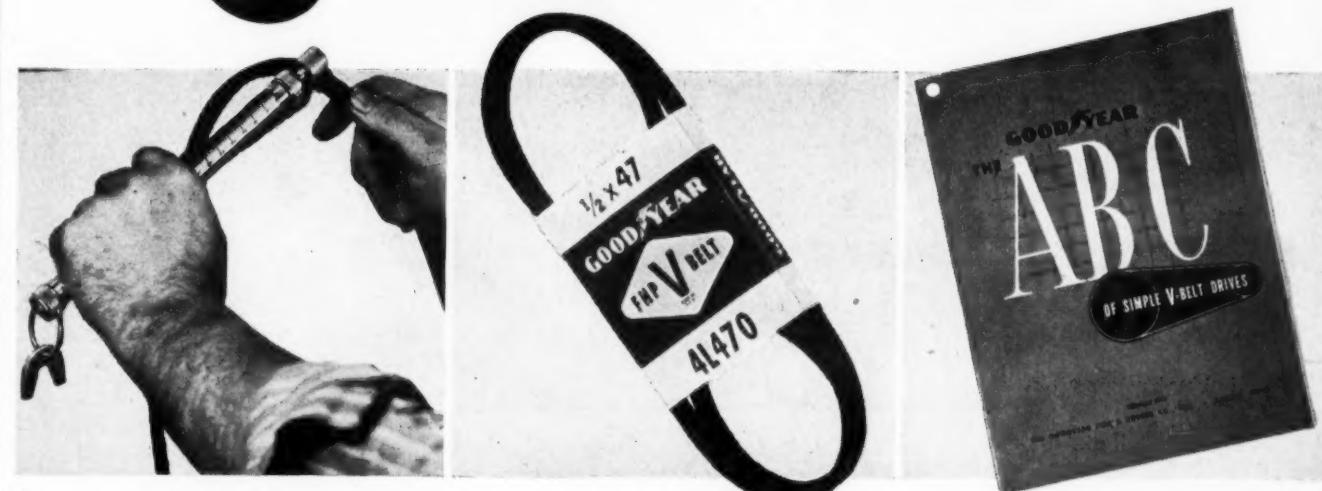
Kroll's talk was similar to one given before the group last year in which he listed the three most important financial principles as follows:

A company's investment in fixed assets should be in proper relationship to its tangible net worth; a company's working capital should be in proper relationship to its annual sales; and a company's merchandise should not be greater than its working capital.

Kroll cited several examples of financial difficulties encountered by firms with whom he has dealt and explained how he had assisted them in overcoming these problems.

Now—V-Belt service is easier with

3 simple steps



1 Easy Beltmeter Measurement— Goodyear's exclusive beltmeter gives you belt length and cross section without even removing the old belt. It's compact—"tool-kit designed" to drop right in your bag. Yet it gives you the right replacement belt—any size from smallest to largest.

Now there's no confusion in V-belt service for refrigeration and air conditioning units. For Goodyear has simplified it to a 1-2-3 operation that finds the right replacement belt the first time—every time!

Anyone can do it. Simply measure the old belt with the beltmeter, then pick the replacement. You don't even have to take the present belt off the machine, because you can operate the meter

2 "Space-Miser Packaging" and simplified marking of Goodyear belts make it easier to find the belt you need. No fumbling through complicated listings—no hunting for codes. Just pick the belt you want from the clearly-labeled sleeve. And new packing method makes belts easier to handle—cuts down on storage space.

through any convenient opening in the housing. Or turn to the Goodyear Replacement Belt Catalogs—clear, concise information listing the belt needs of all makes of commercial refrigeration units.

The exclusive "ABC" book shown above is crammed full of handy, easily-followed information solving such problems as changing drives to increase unit efficiency, determining variable speed pulley

sizes needed by air conditioning drives and the like. It's one more useful addition to your kit that you can't afford to be without. Once you've determined what belt you need, you can turn to the Goodyear line of job-tested V-belts—find a size range to choose from that covers every machine on the market, built-like every Goodyear product—to the world's highest standard of quality.

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What's New

When requesting further information on new products, please use "Information Center" form.

Carpet Sweeper Attaches To Lewyt Vacuum Cleaner



KEY NO. P-1011

BROOKLYN—A new rug nozzle that can be used either as a carpet sweeper or as an attachment to the new Lewyt model 55 vacuum cleaner is currently being introduced to the trade by the Lewyt Corp. here.

As a carpet sweeper, the "101" combination rug nozzle is half the weight of an ordinary carpet sweeper and so low slung that it will go under low furniture and radiators. Height of the nozzle is 2½ in.

It has a self-cleaning, revolving brush which adjusts its own height to that of the nap of the rug. As a carpet sweeper, it never has to be emptied. When the housewife attaches the nozzle to the vacuum cleaner, it is emptied by the suction of the vacuum, the company says.

Using the rug nozzle with the vacuum cleaner, it will do deep cleaning of rugs.

The nozzle will be optional equipment in place of the standard No. 80 carpet nozzle for \$4.95 extra with the new cleaner. Sold alone, the price of the nozzle will be \$11.90.

The new Lewyt model No. 55

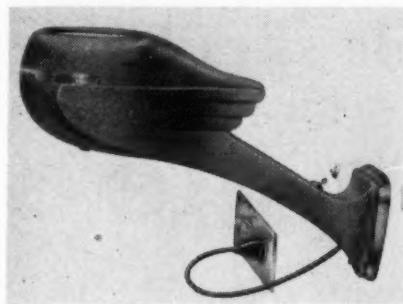
vacuum cleaner will retain the same outward appearance as the previous model, but is lighter in weight, weighing only 14 lbs.

Added features are the new "Speed-Sak" and the "Dustolator." The "Speed-Sak" is a dust and dirt container inside the dust bowl. This can be thrown away after about two months of normal use. The "Dustolator" is a new cloth filter made of Wallace Clan plaid fabric specially woven to give added dust protection.

Other accessories being introduced are the Space-Saver, a rack which is attached to the inside of the closet door for holding the hose, wands, rug nozzle, moth suffocator, and paint sprayer; and the Step Saver, a grey metal "dolly" which is designed to hold the vacuum cleaner and four attachments most used in housecleaning—the floor brush, dusting brush, upholstery tool, and crevice tool.

The Step Saver rolls on four rubber casters and is completely encircled by a rubber bumper so that it cannot mar furniture or baseboards. The Space Saver and the Step Saver will be packaged together and will sell for \$8.95.

Insect-Killing Device Vaporizes Automatically



KEY NO. P-1012

ELIZABETH, N. J.—Automatic "Insect Control," a device designed to control flies, mosquitoes, gnats, and flying moths indoors, has been

perfected by Remington Products Corp. here.

The mechanism is thermostatically controlled to work automatically and vaporize a special formula insecticide. It is affixed to the wall about three feet below the ceiling and plugs into any standard a.c. or d.c. outlet.

"If doors and windows are closed during the night the premises will be free of flies in the morning, and, flies that enter during the day are killed in short order," the company claims.

According to the manufacturer, the device contains no acetone or kerosene, will not stain walls, ceilings, or furnishings, is odorless, and does not affect humans, animals, or foodstuffs.

Most of Sewing Machine Is Shielded by Aluminum



KEY NO. P-1014

DETROIT—A new portable electric sewing machine, whose moving parts are completely enclosed in an aluminum housing with only the sewing head and plastic flywheel exposed, has been announced by Erie Products Co.

Called the Sewmatic, the machine weighs only 11½ lbs. and retails at \$49.95. A luggage type case is available at extra cost.

Powered by a universal motor which meets both domestic and foreign current characteristics, the Sewmatic makes an elastic stitch with a single thread and each stitch is individually tightened. There is no bobbin.

Tension control is automatic, regardless of the thickness of the fabric. The Sewmatic handles sheer nylon, or the heaviest upholstery material without adjustment, the manufacturer stated.

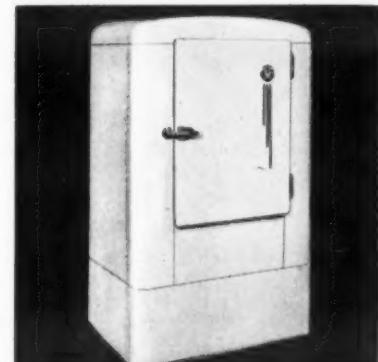
Speed of the machine is governed by a variable speed foot control, which operates against a slight spring tension, like an automobile accelerator. Despite the light weight, the Sewmatic is balanced so it will not "creep" when in use, the manufacturer said.

Other features of the Sewmatic include a built-in light and self-lubricating bearings which require no oiling. The "looper," which makes the stitch, is precision cast of "Vitallium," a hard stainless chrome alloy.

All moving parts are mounted on a rigid center arm which does not get out of adjustment. The machine carries a five-year warranty.

J. D. Singleman, president of Erie Products, said that the Sewmatic will be made available to dealers through a nationwide dealer organization.

Count these BENBAR features! They add up to MORE SALES!



- Hermetically sealed condensing unit
- Panelyte covered door jambs—Frost breaking lock
- Trouble free capillary system
- Two step door construction
- 4" fiberglass insulation

Sell the kind of freezer that all America is demanding. 2 standard sizes—14 and 17 cu. ft.

DISTRIBUTORSHIPS NOW AVAILABLE
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**AUGUST G. BARKOW
MANUFACTURING CO.**
2230 S. 43rd St., Milwaukee 15, Wis.

Water Sterilizer Operates By Ultra-Violet Radiation

KEY NO. P-1013

POTTSTOWN, Pa.—An entirely automatic, electrically-operated ultraviolet water sterilizer has been designed to solve the problem of supplying 100% pure drinking water wherever water must be obtained from a well, spring, or other unprotected source.

Known as the Sepco ultra-violet water sterilizer, this unique device meets public health standards for pure drinking water, according to the manufacturer, the Sepco Corp. here. It requires no attention, uses no chemicals and adds no taste or odor to the water.

Purification is done by ultra-violet radiation utilizing the same principle frequently employed for atmospheric purification in laboratories, hospitals, and other places where the air must be free of germs.

Extensive laboratory tests and field service have proven that the Sepco sterilizer effectively destroys all bacteria in even the most badly contaminated water, making it entirely safe to drink.

Basically, the Sterilizer consists of a stainless steel tank 71 in. high by 12 in. in diameter. Inside are four specially-constructed ultra-violet ray tubes extending vertically through the water. Patented baffles at various levels guide the incoming water close to the constantly glowing tubes, thus assuring 100% purification.

The Sepco sterilizer purifies water at the rate of 400 g.p.m. Where a larger supply of water may be needed, two or more sterilizers can be installed. It is only necessary to connect the sterilizer into the incoming water line ahead of any taps, then plug it into a standard outlet.



* * *

design which is claimed to deliver an even mist of enamel in desired volume by finger-tip pressure upon its ingeniously-hinged tongue. Its construction affords continuous, fool-proof, non-clogging operation at all times.

Cleaning after use is an easy matter: immersion in paint thinner or turpentine allows easy removal of all paint.

A quick shake of the container is all that is needed to prepare the enamel for immediate spraying.

The new combination now retails at \$1.59 complete with spray-head. Spraint enamel is packaged in 19 colors.

**CLEANABLE
WATER-COOLED
CONDENSERS**

More Efficient Double-Tube Counter-flow Design

1/2 to 25-Ton Capacity

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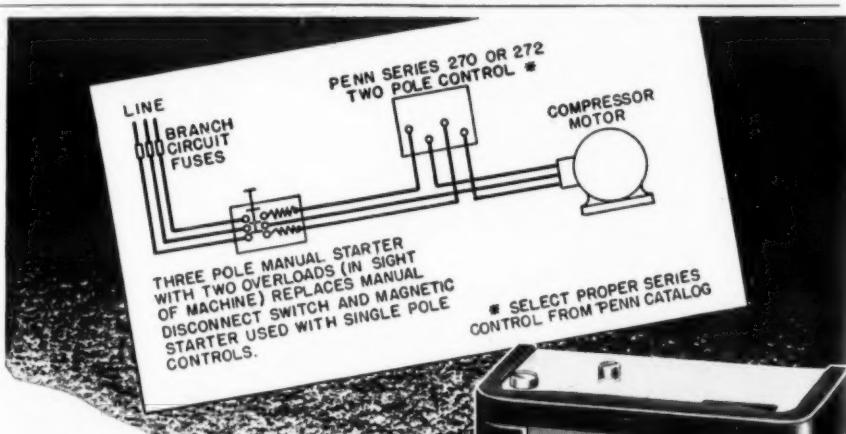
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Enamel Can Spray-Head Works by Finger-Pressure

KEY NO. P-1015

CHICAGO—Minit Spray Corp. has introduced a new "No-Klog" spray-head for "Spraint," its self-spraying enamel package.

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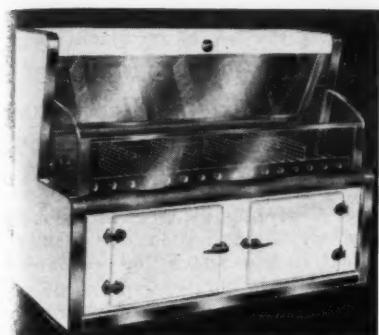
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What's New (Cont.)



Evans Mfg. Brings Out New 'Triple Action' Case

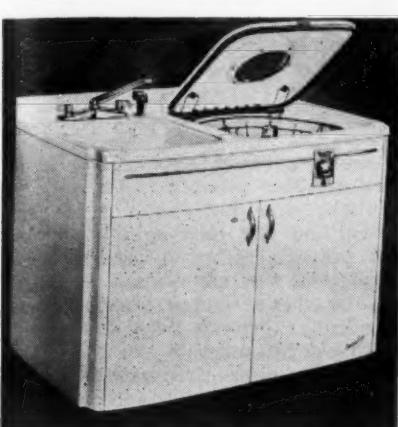
KEY NO. P-1016

M.T. VERNON, N.Y.—Evans Mfg. Corp. is introducing a new "triple action" refrigerated vegetable, meat, or dairy display case.

It has eye-catching design and fluorescent lighting and is manufactured in the popular 6-ft. length.

This Evans triple action case provides constant refrigeration at proper temperature, easy accessibility, and has a full length mirror.

Mullins Sets Price of \$259.95 on Dishwasher



KEY NO. P-1017

WARREN, Ohio—Now being shown to the appliance field by Mullins Mfg. Co. is the new Youngstown electric dishwasher, and the Youngstown electric sink, which incorporates the dishwasher.

The 27-in. dishwasher is priced at \$259.95, which the 48-in. electric sink model will sell at \$349.95.

The new Youngstown dishwasher washes dishes by means of a "Jet-Tower" which shoots swirling streams of water onto the dishes.

80-Gal. Water Heater Added to Leader Line

KEY NO. P-1018

MANSFIELD, Ohio—A new 80-gal. model has been added to the line of Westinghouse Leader water heaters, it was announced recently by M. M. Feaman, manager of the water heater and kitchen utilities department.

This brings the number of models in the "Leader" line to three—the 30, 52, and 80-gal. sizes.

The Leader models feature Corox direct immersion elements, Tri-Snap thermostats, Fiberglas insulation, baffles to keep incoming cold water from cooling the stored hot water, and strong, heavy-duty inner tanks.

The new 80-gal. single element Leader carries a suggested list price of \$153.95, while the suggested list price on the double element heater of the same size is \$159.95.

The suggested list price of the 30-gal. model is \$103.95 with the single element and \$109.95 with the double element. The single element 52-gal. model has a suggested list price of \$118.95 while the double element water heater of the same size carries a suggested list price of \$124.95.



Kit Speeds Up Task of Filling Freezer Cartons

KEY NO. P-1019

CANTON, Ohio—A five-piece kit for filling freezer cartons which not only holds both quart and pint boxes securely but also holds the liner bag open and keeps the funnel in an upright position, is being marketed by Dyer Products Co. here.

Called "Freez-Pakit," the kit includes a pair of wire frames, pint and quart size, which are inserted into the liner bags and which also hold the funnel. Another frame holds four cartons upright in a pan which catches any overflow or spillage. The overflow pan is said to make a handy pan when it is not being used for packaging foods for the freezer.

Working time, it is estimated, is cut in half by the use of the Freez-Pakit. Spillage is greatly reduced and tearing of liner bags is prevented entirely, the company claims.

All five pieces—the carton holder rack, two wire frames, overflow pan, and funnel—can be condensed into one small package for storage. The complete Freez-Pakit retails for \$2.25 in commercial locker plants or may be ordered by mail from Dyer Products Co.

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2 Electric Range Models Introduced by Perfection

KEY NO. P-10110

CLEVELAND—New to Perfection Stove Co.'s electric range line are the 36-in. model 1036 and a 21-in. apartment size model, the 1020.

Cooking top of the model 1036 is of the one-piece turret type. Work space is in the center of the range, with a pair of double-coil Chromalox units on each side. Two of these units are 2,100-watt size, two are regular 1,250-watt units.

A seven-speed switch controls each unit. Coils are self-cleaning and feature a wide, flat top-area.

The fully-insulated oven is 16 in. wide, 20 in. deep, blue-speckled porcelain enameled lined. It has automatic heat control, is heated by a 2,100-watt unit. The waist-high broiler has a 3,000-watt heating unit.

Located at the center of the splasher back is an electric appliance outlet. There's a large double-compartment storage space at the left, opposite oven-broiler, and a separate storage space below.

These compartments are finished in black japan. Front, sides, and top of the 1036 are finished in acid-resistant titanium porcelain enamel.

Model 1020 also has a one-piece, turret-type cooking top. There are three double-coil Chromalox surface units, one rated at 2,100 watts, the others at 1,250 watts. A seven-speed switch controls each unit.

This model has a 16-in. by 20-in. by 14-in. oven and waist-high broiler.

The aluminum broiler pan has a removable reversible rack which may be used as a trivet when roasting. A special pull-out heat shield protects the control knobs when the broiler is in use.

Model 1020 is finished, front, sides, and top, in acid-resistant porcelain enamel. A regular electric appliance outlet is located on the left of the control panel.

New Portable Humidifier Marketed by Kauffman



KEY NO. P-10111

ST. LOUIS—A new portable humidifier that will evaporate from $\frac{1}{2}$ to $2\frac{1}{2}$ pts. of water into the air per hour has been introduced by the Kauffman Air Conditioning Co. here.

The unit measures $14\frac{1}{2}$ in. in length, $12\frac{1}{2}$ in. in width, and $11\frac{1}{2}$ in. in height. It has an air output of 12,000 cu. ft. per hour.

Improvements Up Capacity Of Haertel Dehumidifier

KEY NO. P-10112

MINNEAPOLIS—The Walter Haertel Co., here, manufacturer of specialized industrial dehumidifiers since 1936, has announced a new junior Airmaster to be known as Model 50.

Powered with a $\frac{1}{2}$ -hp. hermetically sealed "Freon" condensing unit, this new addition to the Haertel line has a maximum 24-hour capacity of 50 lbs. of water removal from the air.

Due to several basic improvements in design, Airmaster Fifty will remove 1-gal. of water from the air in store rooms or other closed spaces in from four to five hours, under average temperature and relative humidity conditions.

This new mechanical dehumidifier is expected to find wide use in such applications as hotels, where its portability and large capacity will often permit rooms to be returned to revenue producing service several days sooner after redecorating.

Paper warehouses, candy store rooms, club locker rooms, nut and dried fruit storages, as well as vaults and damp basement spaces, can be automatically kept dry, sweet smelling, and safe for as little as 10 cents per day, electric power cost, the manufacturer states.

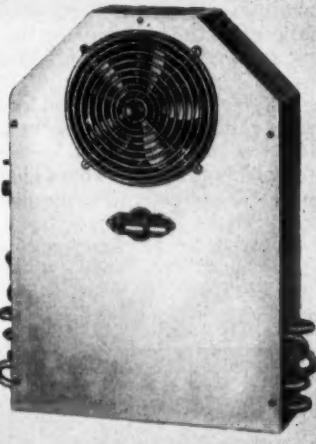


Larger Haertel installations are capable of dehumidifying larger warehouses and all models are available with or without heat recovering means.

Optional automatic means of disposing of the condensate removed from the air, makes it entirely unnecessary to "carry a pail" with even the smallest model.

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Freezer Alarms

Gov't Researchers Draw Up Set of 12 Requirements for 'Ideal' Warning Unit; Discuss Systems' Uses, Operating Principles, Construction

By Earl C. McCracken and Marilyn G. Fisher,
Bureau of Human Nutrition and Home Economics,
Agricultural Research Administration, U. S. Dept. of Agriculture

Investigations made in the Housing and Household Equipment Division of the Bureau of Human Nutrition and Home Economics as to the rate of temperature change in home freezers during periods of non-operation have shown the advisability of some means of warning to indicate power outage to a freezer or mechanical or refrigerative failure of its mechanism.* The warning also can serve in another way as an indication a freezing load is too large or incorrectly placed in the freezer.

This discussion deals with alarm systems in general, their uses, principles of operation, mechanical construction, and the advantages and disadvantages of various types as far as satisfactory performance is concerned. Elsewhere† a report has been made on the results of a study of the operating characteristics of nine alarms available on the open market for installation as accessory equipment. That report dealt with the sensitivity and accuracy of the alarms under various rates of temperature change and of the best location in the freezer for the temperature-sensitive bulb.

Factory Installed vs. Home Installed

If an alarm is a desirable accessory, why aren't all freezers equipped with them?

If they could be installed without cost, every manufactured freezer doubtless would have one. Or, if they could be installed without cost by freezer owners, almost everyone would have one, the delinquents being those to whom the installation would be too much trouble.

But, whenever installed, alarms do cost money and the manufacturer who wishes to install one as an integral part of his freezer realizes that he will be at a competitive-price disadvantage because of the additional expense involved, including the cost of materials and the labor of installation.

Since the initial cost of a freezer is for most families a major household-equipment investment and, since prospective purchasers of freezers will, generally, have had little experience with or knowledge of them, the manufacturer may reason that the added cost of the alarm could be the factor deciding against its purchase in favor of another comparable make at the lower price.

When the alarm is installed in a freezer after purchase, in addition to the purchase price there may be a cost for installation if the signaling device is located some distance from the freezer.

Whether purchased separately or as part of the freezer, the expense of the alarm can be considered as a form of insurance against the loss of food, the cost of which would usually more than pay for the alarm.

From the standpoint of performance, there seems to be little doubt that the freezer manufacturer is able to install the alarm to better advantage than can the user, since the operating characteristics of and temperature-distribution patterns in his freezer are well known to him.

If the alarm is factory installed, it is located at the freezer, which in some cases is an advantage, in others a disadvantage. If, to overcome the disadvantage, the signaling device is removed from the freezer and located elsewhere, the system is not then completely factory-installed but becomes partially home-installed.

Before it can be said whether or not an alarm gives satisfactory performance, what is expected of it must be known. The purpose of an alarm is to warn of conditions that, if continued, could cause quality deterioration or even spoilage of stored frozen food. The sooner the warning is given after interruption of normal operation, the better. Departure from normal operation could be caused by electrical troubles or by failure of the mechanical or refrigeration system.

Types of Signals

There are certain features in design and construction to be considered in all alarms whether they are installed in a freezer during its construction or whether they are purchased to be installed by a freezer owner. These pertain chiefly to the method of warning. In all cases the signal will either be visible or audible or a combination of both and there must be eyes to see or ears to hear.

The simplest protective device is a thermometer placed inside the freezer. When observed frequently, it gives the necessary warning as to temperature change. But this method cannot be relied on 100% for several reasons, one of the chief ones being that very few people would go to the trouble of opening the freezer (a bad practice in itself) just to check on the temperature.

That particular undesirable feature can be overcome by building the thermostatic system into the freezer, using an external indicator that can be observed each time a person is near.

Another visible signal is a thermos-tatically controlled light that goes off when the temperature in the freezer reaches some selected value. The light may be mounted on the freezer, on an external signal box or in a kitchen or other often-frequented location. In this latter case an electric clock could serve the same purpose as a light. In addition, the clock could indicate the duration of a power outage if the period were no longer than 12 hours.

One of the requirements for an ideal alarm is that it should "fail safe." In other words, if anything should happen to the alarm itself, it should indicate that, too. It is much better to be falsely "alarmed" than to have the alarm's failure give no indication of its defectiveness, for, if the alarm is out of order, non-operation of the freezer could go unnoticed until damage had been done to food in storage.

To illustrate the point, the alarm might be such that a light would be turned on if the temperature in a freezer reaches a critical point. If the filament broke, the lamp would not light, no matter what the circumstances.

On the other hand, if the circuit were such that the light burned continuously during normal conditions of operation and the filament broke, it is an easy matter to determine that the fault was not in the freezer.

Incidentally, this sort of device also gives evidence of a broken circuit or an outage in addition to a too-high-temperature condition in the freezer.

Other 'Visible' Signals

This second method of using a light is incorporated in the design of a good many makes and models of freezers. If the light is located outside the freezer, on a signal box or in a kitchen or other location, the leads have to be satisfactory for 120-volt circuits. In order to prolong the life of the light bulb, sometimes one designed for use at higher voltages is used on the 120-volt circuit.

Each of the types cited has the disadvantage of being inaudible.

In addition to the thermometer, light, and electric clock, another type of visible signal is the release of a "flag" to fall through an opening in the alarm box or some other signaling device such as that used in most small electric clocks to indicate that it has been stopped at some time since its last setting.

These devices are seldom used separately but almost always in connection with a small-dry-cell-operated audible signal. If the battery runs down and the bell or buzzer signal becomes inoperative, the visible signal is still present to indicate non-operation.

This last type of signal indicates only an elevated temperature in the freezer.

Needless to say, the kind of signal to be employed will influence the type of sensitive bulb circuit, i.e., whether the alarm is put into or out of "action" by the circuit.

Power for Activating Signal

The two sources of energy used in activating alarm signals are electrical and mechanical.

The mechanical energy is supplied by a clock spring. In one design, the clock is kept from operating by means of an electromagnet. Whenever the circuit fails—for any reason—or when the alarm circuit is broken because the temperature rises to the critical value, the mechanism is released and the alarm sounds until the spring runs down. This is approximately 18 hours. This device is the only one we have seen having an audible warning that is sounded because of an interruption of the electric circuit.

A disadvantage of this particular device is that the sound of the alarm is feeble. It consists of the tapping of a bell at intervals of 10 seconds or so.

Electrical energy for activating an alarm is supplied from the regular 120-volt circuit, either directly or through a transformer, or from a battery or batteries.

Directly-used 120-volt current generally activates a light or electric clock signal. An alarm of the doorbell-type is usually activated when a transformer is used. Sometimes a low-voltage light signal is conjunctively operated with the bell through the transformer.

A disadvantage of either of these methods is that, in case of a broken circuit, there is no power to activate an audible alarm. In the case of a visible signal alone or in conjunction with an audible signal, a measure of warning is available.

Battery-operated signals are not heir to these difficulties. They do not, however, give any indication of broken-circuit troubles, being set off only by the necessary rise in temperature in the freezer.

Battery-operated alarms do have troubles of their own, however. Batteries deteriorate, even without demand upon them, and have to be replaced periodically to keep the alarm in working order. In some instances the system incorporates a trickle-charger to overcome to a great extent the deterioration with time and any use.

An alarm powered by a battery should have some easy method of checking whether or not the battery has deteriorated to such an extent that it will not activate the alarm. A simple method is the use of a switch shorting the sensitive-bulb circuit.

Battery (and transformer) voltages are generally low, making it necessary that all contact points in the circuit be as free as possible from corrosion. Since failure in

freezer operation, with the resulting rise in temperature, does not ordinarily occur until the freezer has been used for some time, possibilities of alarm failure due to corrosion causes are increased. This fact has led some engineers to regard very dubiously the use of an alarm utilizing a low-voltage power supply.

Types of Activating Mechanisms

Every alarm system is designed to signal in some way if the temperature in the freezer rises to a selected value. Therefore some effect brought about by a change in the quantity of heat in the activating mechanism must be used.

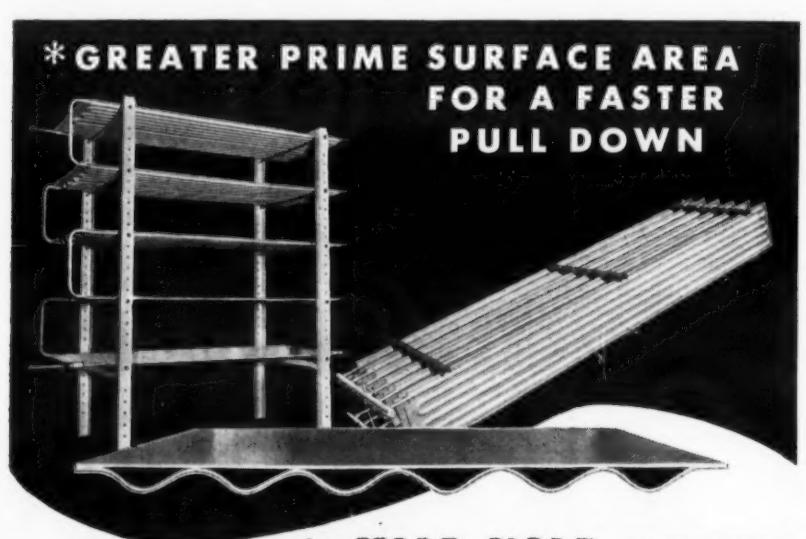
Ordinarily the activation is brought about by a change in temperature. In at least one case, however, it is brought about by a change in state of a substance from solid to liquid. The device consists of a small plastic cylinder containing a substance whose melting point is the temperature at which the alarm is to be activated. Leads to the signaling device are brought into the cylinder through one closed end, the leads being separated from each other. A small quantity of mercury is placed in the cylinder with the substance which is lighter than mercury.

The device is "set" by placing the cylinder in the freezer in a vertical position with the mercury at the opposite end from the ends of the leads. After the substance has frozen, the cylinder is inverted and placed in the desired location. If the temperature in the freezer rises, that of the cylinder will also rise. When the melting point of the substance is reached, it starts to liquefy and the mercury trickles down through it to the other end of the cylinder, making contact between the two lead ends, and the alarm is activated.

One major disadvantage of this type is that the process is not automatically reversible—it cannot shut itself off. The tube has to be inverted manually, the material must be refrozen and the tube again inverted into position before it can be used again. Also the temperature at which the alarm is activated cannot be adjusted. A substance with a different melting point must be used.

When a change in temperature of a substance is used to produce the activation, it is said to be due either to the expansion of one substance or the differential expansion of two dissimilar substances. Actually both are the same. Since the former makes use of the expansion of a liquid, the result is always the difference in expansion between the liquid and its container.

(Concluded on next page)



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DIVISION OF THE SERRICK CORPORATION

Kilgore Avenue, Muncie, Indiana, U. S. A.

Researchers' Report Analyzes Advantages, Disadvantages of Various Types of Alarms

(Concluded from preceding page)

In the simpler of two applications of this principle, the movement of the end of a mercury column in a thermometer completes an electric circuit as the thread reaches a selected location at which is one lead of the circuit, the other being in contact with the mercury lower in the column.

This type of contact is positive and the temperature at which activation and deactivation occur is very accurately reproducible. The setting at which activation occurs cannot be adjusted. A different mercury thermometer must be used for each different temperature.

In another application, a hydrostatic principle is involved. Liquid enclosed in a system exerts a pressure on its container as they are both raised in temperature because the liquid has a greater coefficient of volume expansion than the container. The container is purposely made expandable at one point by some device such as a bellows. The movement of the end of the bellows, either directly or by a lever arrangement, closes an electric contact to activate the alarm.

Disadvantages are that a considerable quantity of liquid is needed for a sensitive system and that a hollow tube, generally of some length, connecting the bulb with the bellows, must be used.

The use of the differential expansion of dissimilar metals (the bimetal thermostat) is quite common. The metals are solidly joined along their lengths and as one lengthens more than the other when temperature is changed, the bimetal strip will curve and the movement of the end can be used either to make or to break a circuit.

The system can be made as sensitive as desired by the selection of metals and the use of the proper length of the bimetallic strip, which may be in the form of a coil to reduce the size of the activator "bulb."

In order to overcome, at least partially, the effects of corrosion, the resistance of the alarm circuit is made low to increase the current value. With this relatively high amperage and contact resistance at the point of circuit completion, a heating effect is produced at the closure point. This augments the effect due to temperature rise in the freezer, tending to assure a non-fluttering action of the alarm at the time of closure.

The Bulbs

When an alarm is incorporated in a freezer during manufacture, the sensitive bulb is usually so located that it is not subject to the ordinary causes of breakage. If the alarm is installed later, however, the bulb generally will be placed in a compartment with the frozen food. There it will be subject to the hazard of sharp impact if it is struck by a dropped frozen package or if a pile of packages collapses against it. Therefore, the mechanism should be protected.

Glass bulbs are especially subject to breakage. Even though a mercury-in-glass thermostat is inside another glass or transparent plastic container and thereby has a modicum of protection, if the first accident does not break the thermostat it leaves it without further protection. Also, the presence of any broken glass is hazardous.

In most cases of freezer warmup the rate of temperature change will be slow enough that the temperature at the mechanism will not lag much, if any, behind that at the center of a small package next to it, even though the use of a protective shield decreases the rate of heat penetration to the activating mechanism.

The relatively solid bulb of a hydostatically actuated alarm does not need any added protection.

Leads

When the alarm system is built in the freezer at the time of manufacture, the problem of leads from the sensitive bulb to the signaling device is of less consequence than when the alarm is installed later as accessory equipment.

The problem of location of the external part of the mechanism can usually be handled by mounting it on an adjacent wall or cabinet. The lead should be long enough to allow

proper and convenient disposition of the warning device and should be constructed so they may be brought out of the freezer with a minimum of interference with door or lid closure and of effect on the gasket seal.

This is quite difficult in the case of the hydostatically operated device since a length of capillary tubing is involved. This tubing is relatively stiff and reduces the convenience and ease with which the bulb location can be made or changed if desired.

The leads should be resistant to moisture penetration. This has led some manufacturers to use a plastic sheath of some kind as protection for cotton covered wire. If this sheath encloses both lead wires in one "circular" bundle, it is of relatively large size with possibilities of interference with gasket seal. In order to circumvent this difficulty, many use a plastic covering in the form of ribbon of less thickness and with less possible effect on the gasket material.

One alarm uses a small armored cable to cover the leads, giving good mechanical protection but having little, if any, moisture resistance. In addition, it is difficult to handle and is hard on the gasket.

To afford maximum moisture resistance, the sheath must be sealed at each end—to the bulb and to the signaling device. If much movement of the leads takes place, there is a decided tendency for the sheath to break loose at these points.

Temperature Settings

Since the purpose of a freezer alarm is to protect frozen food, it should be set to give the signal at any time a critical temperature or condition is reached, no matter why or how often that occurs.

This point is missed by one manufacturer who purposely sets the thermoswitch on his standard unit at a comparatively high setting of 24°. His reason is that there are a considerable number of low temperature cabinets now in use that do not carry very low temperatures. Since he does not want his customers to attempt to make adjustments, he uses this setting to prevent the alarm being sounded "unnecessarily."

Although he states that the switch has a very wide temperature range and can be adjusted for any desired temperature, the "Installation Instructions" issued with the alarm caution: "Do not attempt to adjust thermo-switch." Apparently the switch must be factory-adjusted if a temperature setting other than 24° F. is desired.

Just what upper limit to place on the temperature variation of frozen food in storage is a debatable question. It is possible that foods placed in a freezer in a certain condition at a certain time could be refrozen after thawing with no later harmful effect on a consumer even though there may have been some reduction in quality of the food.

The temperature and time limits on the warmup process allowable before refreezing vary with the kind of food and its condition at the time of initial freezing. For an alarm to be safely used, it should react on the safe side—before any food in the freezer reaches the temperature condition out of which none of it should be refrozen.

15° F. Safe Upper Limit

To us it seems that 15° F. is a reasonable and safe upper limit of temperature fluctuation. At that temperature, packages of fruit frozen in syrup, at the maximum concentration generally used, begin to soften, giving the first physical indication of thawing. If that limiting figure is acceptable, it means that an alarm should give its warning by the time the first package in the freezer reaches that temperature.

To be always on the safe side, the alarm should signal by the time the temperature in the warmest place in the freezer reaches 15° F., whether there is a package there at the time or not.

If the bulb of the alarm is at that location, its setting should be 15° F. As previously stated, the temperature rise in most freezers during periods of non-operation is slow enough that the bulb's temperature will be the same as that of a package at that location.

If the bulb is not located in the

warmest area in the freezer, its setting should be such that it will signal when the 15° F. temperature is reached in the warmest location. Its setting, then, in that case must be below 15° F. in order to signal by the proper time.

Of the nine alarms examined in our laboratories, only one had a stated setting lower than 15° F. Five were said to be set at 15° F., one at 24° F., and two at 25° F.

Of the instructions available with the alarms, one or possibly two (depending upon the interpretation put on the directions) specified a bulb location that could possibly be in the warmest area. Hence, instructions accompanying freezer alarms to be installed by the user do not specify locations that will give warning when a critical temperature of 15° F. is reached at some place in the freezer.

None of the alarms tested could be adjusted to different temperature settings by anyone not versed in the construction design of such pieces of equipment and some of them, because of their construction, could not be adjusted. In these cases, a new sensitive bulb is necessary to change the temperature at which the alarm is activated.

Large Freezing Loads

An alarm can serve in warning when a temperature rise occurs due to the freezing of too large a load at one time. As might be expected, freezers vary in the amounts that can be frozen without causing any food in storage to rise to the critical value of 15° F.

In general, manufacturers err in giving for their freezers too large a recommended maximum freezing load. An alarm properly set will indicate when the temperature of the

storage load has been raised too high. As a result, the user can learn the freezing-load limit or can find how the freezer must be operated in order to freeze the larger load without causing the storage load to reach the critical value.

The Ideal Alarm

Consideration of the problem has led to our establishment of a set of requirements for a freezer alarm. Six of the 12 requirements are considered to be of considerably more importance than the others. Listed in approximate order of relative importance these characteristics of an ideal alarm are:

- (1) It should signal if the temperature rises above normal cycling values;
- (2) it should signal if the freezer circuit is broken;
- (3) it should "fail safe";
- (4) it should be consistent at the temperature at which it is activated;
- (5) it should be powered by other than the freezer circuit;
- (6) it should have a positive audible signal.

- (7) It should have an easy and accessible means for checking the action;
- (8) it should turn on and off automatically;
- (9) it should have a manual means for turning off the signal;
- (10) it should have an unbreakable bulb.

If the alarm is to be installed in an already-built freezer,

- (11) the leads should not interfere with the gasket seal; and
- (12) should be flexible enough and long enough to permit the desired location of the sensitive bulb.

*McCracken, Earl C., Lenore E. Sater and Katherine B. Bailey: Home Freezers During Power Outage; *Refrig. Eng.*, Vol. 51, No. 2, p. 117, Feb. 1946.

†McCracken, Earl C., and Marilyn G. Fisher: Freezer Alarm Performance; *Refrig. Eng.*, Vol. 58, No. 4, p. 354, Apr. 1950.

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1 BOOK ON GRUNOW SERVICE

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THEORY

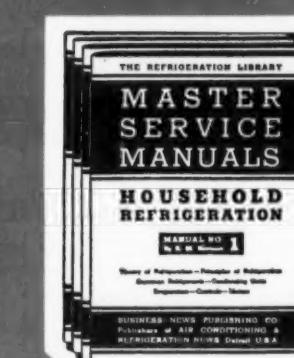
MANUAL NO. 1—The theory and principles of refrigeration explained in simple terms. Characteristics of common refrigerants. Construction and operation of the major component parts of a household refrigerator. 144 pages, 144 illustrations, 6 tables and charts. Price \$1.50.

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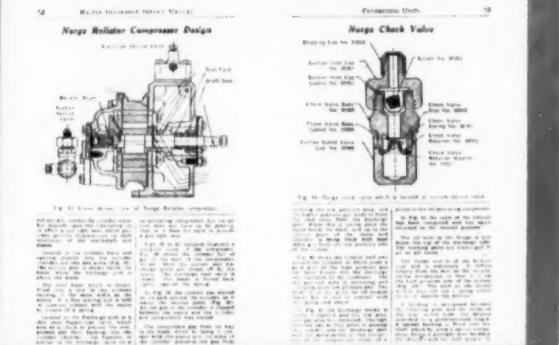
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MANUAL NO. 3—Detailed data on methods of servicing several special refrigerators including Allison, Electric, Holmes, U. S. Hermetic, Majestic Conventional, Majestic Hermetic, Socold, Iroquois, and Welsbach. 144 pages, 59 illustrations. Price \$1.50.



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GRUNOW

MANUAL NO. 5—Grunow household refrigerator service methods, for all float valve and Carrene meter models. The vacuum cycle of operation. Step by step procedure for removing and replacing all parts and for all other service operations. Chapters: (1) Refrigerant and cycle of operation; (2) head pressure checking, leak detection, and purging; (3) Carrene meter and checking charge; (4) removing and replacing unit parts; (5) thermostats and electrical equipment, testing capacitors, transformers, and relays; (6) service problems and remedies; and (7) key specifications of 1933-37 models useful in replacing parts. 68 pages. Price \$1.50.

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To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Booklet Covers Hospital Use of Stainless Steel

KEY NO. L-1011

PITTSBURGH—The past, present, and future of stainless steel in the nation's hospitals is the subject of a new booklet just published and released by Allegheny Ludlum Steel Corp.

The eighth in a series of "industry" booklets, "Allegheny Metal in Hospitals" is packed with information and illustrations of the use of stainless steel from basement to kitchen to sundeck of modern hospitals of today and tomorrow.

A unique feature of the booklet is a check list of more than 800 stainless steel hospital applications, said to be the most comprehensive list ever published.

Before publication, the booklet was checked and approved by a leading hospital authority. It is recommended for those interested in hospital construction, maintenance, or operation, as well as for fabricators and others interested in hospital equipment.

Worthington Bulletin Describes 'Y' Compressors

KEY NO. L-1012

HARRISON, N. J.—A bulletin describing the newly developed "Y" ammonia compressors—both single and two-stage—has been announced by Worthington Pump & Machinery Corp. It is numbered C-1100-B-36.

Outstanding features include: cylinders and heads provided with large water jackets; box section crossheads, babbitt faces; completely enclosed frame; and low-pressure piston.

Specifications and over-all dimensions are included in the bulletin.

Use of Air Diffusers In Textile Plants Explained

KEY NO. L-1013

NEW YORK CITY—A new 4-page folder (Bulletin 32) describing how to apply air diffusers in textile plants, has been issued by Anemostat Corp. of America, here.

Folder tabulates factors governing atmospheric conditions.



Locker Show Visitors See Freezers

C. A. LEONARD, assistant to the freezer manager for Crosley, explains features of the CCF-8, one of the new freezers recently introduced by the company, to Mr. and Mrs. Dave Stiber, locker plant operators from Colby, Wis.

INSPECTING A C-16 model freezer at the Deepfreeze booth are Mr. and Mrs. Robert Woolm, Osage, Iowa, locker operators, as Prof. J. D. Winter of the University of Minnesota confers with Harold J. Gastman, product service engineer for the Deepfreeze central region.

Servel Sales Meeting

Hears of 1950 Record, Lays Plans for 1951

EVANSVILLE, Ind.—District managers and sales representatives of Servel's Electric Refrigeration Div. gathered here recently for their national fall sales conference.

O. J. Dail, general manager of the division, was chairman.

Servel's achievements in electric refrigeration in 1950 were discussed at the first meeting on Monday, Sept. 18. Dail and Geo. S. Jones, Jr., vice president and assistant to the president of Servel, reviewed 1950 progress in general.

The field sales representatives gave their reports to the conference. In addition, C. E. Ploeger, chief engineer of the division, went over engineering problems in 1950; C. B. Lance, sales promotion supervisor, discussed 1950 advertising and sales promotion; and Geo. S. Eager, service manager, examined the record for service in 1950.

Louis Ruthenberg, chairman of the board, and W. Paul Jones, president, spoke to the group Tuesday evening at a dinner meeting in the Vendome hotel.

Ruthenberg praised the Electric Refrigeration Division sales department for increasing sales during the past year, and said that "on the basis of the past year's record we look forward to expansion of the division's activities. However, in the present uncertain international situation, no one knows what may happen.

"When the Korean fighting began, we decided to follow our previously prepared program until we saw some reason for deviation. So far we have discovered no reason for changes."

Servel's board chairman added, however, that everyone must recognize two serious internal developments that may be more serious than those in the areas of war and international relationships. These are "inflationary forces which feed upon themselves as people are convinced that future prices will be higher than present prices," and "increasing bureaucratic control which threatens the freedom at home that we are fighting to maintain abroad." He told his audience the latter can be handled by effective salesmanship for less bureaucratic controls and preservation of our traditional freedom.

Jones, Servel's president, also congratulated the Electric Refrigeration Division for its upward business trend which "didn't wait for the Korean situation, but began a solid advance last fall." He prophesied new and increased activities for 1951.

UsAirco Adopts New Group Health Insurance Plan

MINNEAPOLIS—United States Air Conditioning Corp. has adopted a new Group Health Insurance Plan which has been put into effect.

The plan provides accidental death and dismemberment insurance protecting the employee against losses due to bodily injuries away from or at work, and paying indemnity in case of accidental death.

Also included are accident and sickness insurance providing a weekly income during disability, and hospital, surgical, and in-hospital insurance benefits for both the employee and his dependents.

The same type of coverage was extended to both factory and office employees. . . . UsAirco pays the entire cost of this insurance.

RSES Members Study Pharmaceutical Plant



PRACTICAL APPLICATIONS of refrigeration were inspected by the Illinois RSES association during its annual meeting in Waukegan when Edw. A. Ravenscroft (second from right), director of engineering for Abbott Laboratories, invited the group to tour the extensive pharmaceutical plant.

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10-2-50

Government Contracts

The following data on government contracts is published by AIR CONDITIONING & REFRIGERATION NEWS to give manufacturers, suppliers, and contractors an opportunity to bid on contracts being let by the U. S. Department of Defense as well as other branches of the Federal government. Data on contracts that have already been awarded is also published so that

PROCUREMENT INFORMATION

Individuals and companies who are interested in bidding may obtain complete bid sets containing more detailed data including specification, packing, delivery, and other requirements by a written request to the issuing office. Such requests should cite the description, applicable invitation number, or other reference and the opening date, etc.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following ordinance districts, arsenals or armories. Complete information can be obtained by written request or personal call on the ordinance district office nearest your address is on file in your nearest Department of Commerce field office.

| Description | Quantity | Invitation No. | Opening Date |
|--|------------------|----------------|--------------|
| District Chief, Detroit Ord. Dist., 6301 W. Jefferson, Detroit, Mich. | 50 ea | 563 | 6 Oct 50 |
| Cleaner—Vacuum—Electric | | | |
| Commander, Charleston Naval Shipyard, Naval Base, S. C. | | | |
| Procurement Office | | | |
| Boat—Steam, Flexible | 1,000 ft | cns 23179 | 2 Oct 50 |
| Co., Naval Suppl. Depot, Great Lakes, Ill., Procurement Division | | | |
| Inserts—Stainless Steel | 96 | 49 | 17 Oct 50 |
| Seamless—Steam Table | | | |
| Wright Patterson AFB, Dayton, Ohio | | | |
| Aluminum Alloy Tubing Flex- ible Type 1 | 1-4 items | 51-479 | 16 Oct 50 |
| Wright-Patterson AFB, Dayton, Ohio | | | |
| Cooler—Stationary Air-Type B-1 | 43 ea | 51-584 | 26 Sep 50 |
| Aviation Supply Office, 700 Robbins Ave., Philadelphia 11, Pa. | | | |
| Valves Gate Steel Air Exhaust | 35 ea | H51497 | 2 Oct 50 |
| Steam—or Water 400 PSI | | | |
| Pressure Flanged Ends—Faced and Drilled Size 6 Inch | | | |
| Chest Hot Food Complete with Four (4) One Gallon Warming Pots) | 55 ea | H51606 | 4 Oct 50 |
| CO., Chemical Corps Procurement Agy., Army Chemical Center, Md. | | | |
| Refrigeration Supplies—30 Items Such as Adapters—Belts— Control—Tubing—Latches—Nuts— SIL/FOS—Thermostat—Valve etc. | from 6 ea to 100 | 51-221 | 16 Oct 50 |
| Officer-in-Charge, Navy Purchasing Office, Washington, D. C. | | | |
| 2" - 600 lbs. Inverted Globe Stop | 84 no | 2752-S | 24 Oct 50 |
| Check Valves | | | |
| 1" - 600 lbs. Swing Check Valves | 140 no | 2752-S | 24 Oct 50 |
| Welding Ends | | | |
| Contracting Officer, 3151st Electronics Groups, Watson Laboratories, AMC, Red Bank, N. J. | | | |
| Fume Hood | 2 ea | 80 | 6 Oct 50 |
| Blower, Utility | 1 ea | 80 | 6 Oct 50 |
| Aviation Supply Office, 700 Robbins Avenue, Philadelphia 11, Pa. | | | |
| Valve Fuel Solenoid, for use on Various Aircraft. | 600 ea | D11508 | 12 Oct 50 |
| Commanding Officer, Picatinny Arsenal, Dover, N. J. | | | |
| Washer—Hold Up Tanks and Heat Exchanger | 5 ea | 142 | 9 Oct 50 |
| Navy Purchasing Office, 111 East 16th St., New York City | | | |
| Desiccant, Medium | 50,000 lbs | S302 | 17 Oct 50 |
| Desiccant, Activated | 430,000 lbs | 7287 | 17 Oct 50 |
| Aviation Supply Office, 700 Robbins Avenue, Philadelphia 11, Pa. | | | |
| Gas—Freon-11 Commercial Grade in 200 lb. Drum | 35,000 lbs | Z1509 | 10 Oct 50 |
| Commandant of the Marine Corps, Washington, D. C., Attn. Supply Dept., Procurement Sect. | | | |
| Heaters Electric, Water, Storage | 50 ea | 287 | 16 Oct 50 |
| Naval Ordnance Plant, Forest Park, Ill. | | | |
| Flexible Coupling | 410 ea | 338 | 11 Oct 50 |
| Wright Patterson AFB, Dayton, Ohio | | | |
| Oven—Electric—AC 220 Volt | 3 ea | 51-623 | 29 Sep 50 |
| Aviation Supply Office, 700 Robbins Avenue, Philadelphia 11, Pa. | | | |
| Valves Pressure Reducing | 8 ea | H51675 | 10 Oct 50 |
| Flanged Ends, Faced and Drilled | | | |
| Signal Corps Procurement Agency, 2800 So. 20th St., Phila. 45, Pa. | | | |
| Psychrometer and Thermometer Per Spec 74-57 and Amend 1 | Various | 560-04 | 12 Oct 50 |
| Commandant of the Marine Corps, Washington, D. C., Attn. Supply Dept., Procurement Section | | | |
| Air Conditioning Unit— Electric—Motor Driven | 1 ea | 296 | 12 Oct 50 |
| Cooling Tower—Mechanical Draft | 1 ea | 296 | 12 Oct 50 |
| Supply Officer, Naval Gun Factory, Washington, D. C., Attn. Procurement Branch | | | |
| Valves, 2" Gate | S ea | 9536/186 Ord | 5 Oct 50 |
| Valves, 1" Swing Check | S ea | 9536/186 Ord | 5 Oct 50 |
| Valves, 1/2" Swing Check | S ea | 9536/186 Ord | 5 Oct 50 |
| Valves, 1" Pressure Line | S ea | 9536/186 Ord | 5 Oct 50 |
| Supply Officer, Philadelphia Naval Shipyard, Philadelphia, Pa., Attn. Purchase Section | | | |
| Meat Chopper—Electric—Heavy Duty Type V-Belt Drive | 2 ea | S-3052-A | 13 Oct 50 |
| Approx. 14 Ft. Long—30" Deep— And 20" High—Slim To Model No. NMC-265—W F Dougherty & Sons, Inc. | | | |
| Machine—Vegetable Cutter & Slicer—Capable of Cutting Strips 3/16 Inch Square | 2 ea | S-3052-A | 13 Oct 50 |
| 7/16 Inches Square And Flat Slices Instantly Variable From 1/64 Inch To 1/4 Inch Slim To Model VCS-1806— W F Dougherty & Sons, Inc. | | | |
| Meat Slicer—Electric— Spring Pressure Feed Type— Approx. 20" Long—18" Deep— And 14" High—Slim— To Model No. MSM-275—W F Dougherty & Sons, Inc. | 1 ea | S-3052-A | 13 Oct 50 |
| Refrigerator—Portable | 2 ea M&S | 3077 | 13 Oct 50 |
| Electric—Approx. 50 Cubic Ft. Net Capacity—Approx. 70 Square Ft. of Shelf Space— Outside Dimensions Approx. 70" Wide—74" High And 33" Deep—Frigidaire Model FB-5 Or Equal | | | |
| Commanding Officer, Naval Supply Depot, Mechanicsburg, Pa., Attn. Code 778B | | | |
| Gag—Various Types And Ss—Pressure—Pressure Iplex—Compound—Liquid Lel—Pressure Freon— Compound Retard—Compound Pon—Test Pressure—Mat To P In Accordance with Various Navy And Commercial Specs | 3,955 ea | 763763 | 24 Oct 50 |
| Commanding Officer, U. S. Naval Air Station, Corpus Christi, Texas | | | |
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GENERAL SERVICES ADMINISTRATION

potential sub-contractors may submit their bids as soon as possible.

Description of the materials or items wanted are necessarily brief, but anyone interested can write, phone, or wire to the office listed and obtain complete details. Be sure to mention Reference No. of each invitation or contract.

Data published below is collected by the U. S. Department of Commerce.

Chief, Administrative Services Section, Public Buildings Service, Gen. Services Admin., 630 Sansome St., Room 838, San Francisco 11, Calif. Los Angeles County California CR-1085 10-4-50

Local Board Offices Selective Service System Furnishing And Installing Unit Heaters Etc.

Administrative Officer, Public Buildings Service, General Services Administration, 448 New Custom House, Denver 2, Colo. Install Hot Water Storage Tank 1 Job C-2-26 9-25-50

U. S. P. O. and Court-House, Las Vegas, New Mexico

Chief, Purchase Division, Federal Supply Service, General Services Administration, 2400 Fourth Ave., South, Seattle 4, Wash. Globe Valves, Plug Type 150 ea 4-M-5487-1 10-3-50

Gate Valves, 150 lbs. Pressure 400 ea 4-M-5487-1 10-3-50

Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C. Copper Flare and Solder Fittings, 54 Items Misc 288 9-31-50

Feeders Air Conditioner Parts, 88 pcs 301 10-5-50

Eleven Items Chrysler Airtemp Cooling 1 ea 299 10-4-50

Tower Parts, 6 Items Chrysler Airtemp Air Conditioner 112 pcs 299 10-4-50

Tower Parts, 12 Items Chrysler Airtemp Air Conditioner 112 Items

Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 902 U. S. Custom House and Appraisers Stores, Philadelphia 6, Pa. Furnishing the Materials and Performing the Work for Space Heating Boiler Repairs at P. O., Urbana, Ohio

9-27-50

Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 2100 Fidelity Bldg., Kansas City, Mo. Elevator and Boiler Repairs 1 Job DC-48 10-18-50

Omaha, Nebr. P. O.

Air Washer Nozzles 300 ea KC62 10-9-50

Minneapolis, Minn. P. O.

Chief, Purchase Branch, Federal Supply Service, General Services Administration, Room 7120, 7th and D Sts., S. W., Wash. 25, D. C. Refrigerators, Commercial 33 ea SF-91549A 10-2-50

Type, 20 Cu. Ft., Biological Inserts

Chief, Purchase Division, Federal Supply Service, General Services Admin., 2400 Fourth Ave., South, Seattle 4, Wash. Compressors, 4 Cyl. with Automatic 1 ea 3-M-5481 10-6-50

Unloader

Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 1124 N. S. Post Office, Chicago, Ill. Air Valves 100 ea 4-ADM-81 10-2-50

Replacing Boiler Tubes, Etc. One Job 10-3-50

New Water Heater, Etc. One Job 10-16-50

Paris, Ill. Post Office

New Unit Heater, Etc. One Job 10-20-50

Port Huron, Mich. Post Office

Chief, Purchase Division, Federal Supply Service, General Services Administration, Denver, Colorado

Heating Materials For 122 items 1034 10-13-50

New Construction

Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 630 Sansome St., Room 838, San Francisco 11, Calif.

Iron Ductwork SF-120C 10-3-50

Chief, Supply Division, Public Buildings Service, Room 819, 1114 Commerce St., Dallas, Texas

Ventilating Fans 11 54-9-29-F 9-29-50

Tops And Tubes For Gas 75 ea 58-10-10-F 10-10-50

Burner

Repair Parts For Heating Equipment 250 ea 60-10-11-F 10-11-50

New Gas Burner Villa C & R 65 10-10-50

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Shreveport, La. P. O.

U. S. DEPARTMENT OF COMMERCE

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Similar to Aerovane T72 15 each 24 Inch x 18 Inch 5 Each 10 Inch x 6 Inch

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Test Cabinet 1 ea B-1-496-51 10-9-50

Thermometers 169 ea B-1-500-51 10-9-50

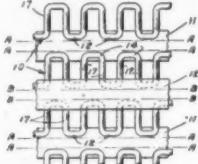
Machinery, Laundry, Extractor, 1 ea B-2-501351 10-6-50

Washer, Tumbler

PATENTS

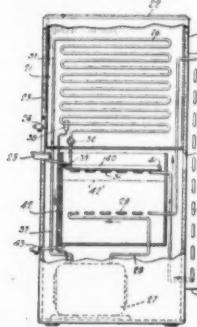
**Week of April 25
(Continued)**

2,505,619. METHOD OF CREATING PIN SURFACES FOR HEAT EXCHANGERS. Sven Holm, Wellsville, N. Y., assignor to The Air Preheater Corp., New York, N. Y. Application Aug. 10, 1948, Serial No. 43,398. 3 Claims. (Cl. 29—157.3.)



1. The method of making heat exchanger envelopes provided with extended surface which comprises: bending lengths of wire to form zig-zag loops therein; disposing a plurality of such bent wires of desired length in spaced parallel relation with their major axes located in the same plane; laying narrow metallic strips across the space between each pair of bent wires with the side edge portions of the strips contacting the base portions of the loops of one wire of a pair of contiguous wires and the corresponding head or stretcher portions of the loops of the other wire of the said pair with said strips lying alternately upon and beneath the successive pairs of wires; fastening the bent wires to said strips by welding or the like; bending both side edge portions of each strip along lines adjacent and parallel to its longitudinal axis to form channel members thereof having the bent wires attached to and extending along the legs of the channels, the strips being bent alternately downwardly and upwardly so that each wire is connected to adjacent channels in alternation at the base and stretcher portions of its loops; placing said channels together with their attached wires between spaced metallic plates with the latter contacting the base portions of said channels; and bending the channels and attached wires to said plates to form an envelope whereof the plates form walls and the leg portions of said loops constitute extended surface in the form of pin-like fins.

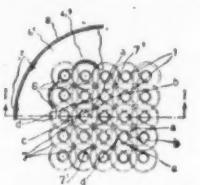
2,505,632. WATER COOLER HAVING WATER AND AIR COOLED CONDENSERS. John G. Wehrwein, Havertown, Pa., assignor to Sunroc Refrigeration Co., Dover, Del., a corporation of Delaware. Application Nov. 25, 1947, Serial No. 787,915. 2 Claims. (Cl. 62—141.)



1. In a water cooler, a mechanical refrigeration unit including a cooling unit and a plurality of condensers, a water cooling chamber in heat transfer relation with the cooling unit, a dispenser connected to the water cooling chamber, a

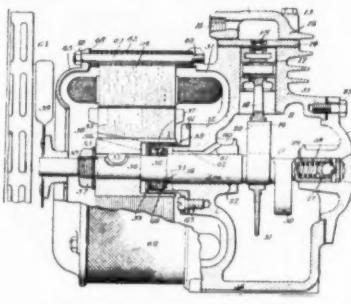
sump collecting waste water from the dispenser, a waste water channel connected to the sump and in heat transfer relation to one of the condensers through which waste water passes in flow and a waste water storage compartment receiving water from the waste water channel and in heat transfer relation to another of the condensers, whereby a portion of the heat in the condensers is utilized in vaporizing waste water.

2,505,635. TUBE NEST FOR HEAT EXCHANGERS. Eugen Villiger and Rudolf Peter, Zurich, Switzerland, assignors to Aktiengesellschaft Fuer Technische Studien, Zurich, Switzerland, a corporation of Switzerland. Application Aug. 14, 1946, Serial No. 690,572. In Switzerland Sept. 22, 1945. 7 Claims. (Cl. 257—224.)



1. A heat exchanger comprising a shell; a nest of long slender parallel tubes enclosed by said shell, said tubes being uniformly spaced and arranged in a pattern in which the tube axes lie in intersecting sets of parallel uniformly spaced planes; and at least one grid assembly serving to sustain the tubes laterally in a zone intermediate their ends, said assembly comprising at least two sets of spacer rings, these sets being offset from one another in the direction of the length of the tubes, each ring freely encircling a tube, and the tube so encircled being spaced from the encircling ring and from other tubes by a plurality of rings offset from said encircling ring and in peripheral contact with said encircled tube and other tubes at a plurality of circumferentially spaced points on the tubes and on the rings.

2,505,709. COMPRESSOR FOR REFRIGERATING APPARATUS. Herman M. Goldberg and Arvid E. Karlberg, Chicago, Ill., assignors to Chicago Seal Co., Chicago, Ill., a corporation of Illinois. Application May 3, 1944, Serial No. 533,843. 3 Claims. (Cl. 230—58.)



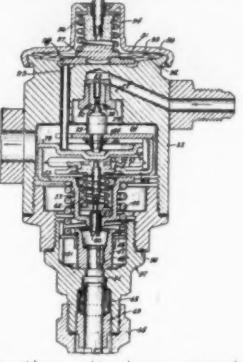
1. A compressor unit for refrigerating apparatus comprising a housing; a compressor within the housing; a main operating shaft connected with the compressor and having one end extending through and beyond one wall of the housing, said one wall being formed to provide a supporting bearing through which the shaft extends; a packing type rotary seal assembly on the shaft outside the housing and closely adjacent thereto; a casing removably secured to the outside of the housing around the supporting bearing and including an outwardly projecting portion enclosing and supporting said seal assembly; an electric motor having a stator surrounding a rotor, said rotor including a hub secured on said shaft and having an open end recess receiving the sealing assembly; an annular cap member surrounding the shaft and covering the outer end of the motor stator; stator holding rod members detachably securing the cap member to said one wall of the housing and in spaced relation thereto and to the motor stator; and a separate tubular housing member encompassing the motor and removably mounted between the annular cap member and the said one wall of the housing.

Week of May 2

2,505,933. PRESSURE LIMITING THERMOSTATIC EXPANSION VALVE. Clarence L. Aughey and Lourdes V. McCarty, Milwaukee, Wis., assignors to Automatic Products Co., Milwaukee, Wis., a corporation of Wisconsin. Application June 16, 1944, Serial No. 540,701. 13 Claims. (Cl. 62—8.)

1. In a control device connected between the compression unit and the evaporator

of a refrigerating system, a casing having a partition therein with an orifice and a chamber on the discharge side of the orifice, a valve controlling the flow of refrigerant through the orifice, a



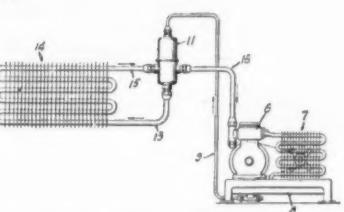
frozen with a solution having a freezing temperature much lower than that of the foodstuff, filling the foodstuff units into the containers, quick freezing the foodstuff, adding heat to the outside container surfaces and dumping the frozen foodstuff out of the holding container.

2,506,101. MIXING MECHANISM FOR DISPENSING FREEZERS. Harry M. Oltz, Miami, Fla. Application Nov. 13, 1947, Serial No. 785,682. 6 Claims. (Cl. 259—134.)



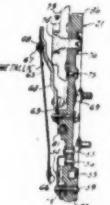
1. In a dispensing freezer having a chamber with an interior wall, a mixing and delivering mechanism comprising a rotatable shaft, a helical fin secured to said shaft, a plurality of slots formed in the peripheral edge of said fin which are arranged in axially aligned pairs with one pair circumferentially spaced from another, scraper blades movably mounted in each of said spaced apart pairs of slots having outer wall engaging edges and inner edges, said slots being slightly wider at their outer ends than the thickness of said blades and having forward sides and trailing sides which, with respect to the direction of rotation of said shaft, lie in planes directed outwardly in advance of a radius from said shaft through the inner edges of said blades, and springs mounted on said fins having free end portions engaging said blades in each of said slots for biasing said blades toward said trailing sides of said slots to thereby urge the outer edges of said blades toward forwardly directed scraping engagement with the interior wall of the freezer during rotation of said shaft.

2,506,934. CAPILLARY REFRIGERANT CONTROL, INCLUDING DEHYDRATOR. Clarence L. Aughey and Lourdes V. McCarty, Milwaukee, Wis., assignors to Automatic Products Co., Milwaukee, Wis., a corporation of Wisconsin. Application July 8, 1944, Serial No. 544,014. 3 Claims. (Cl. 62—8.)



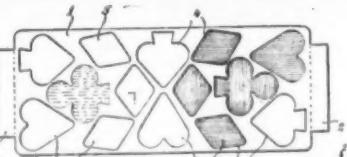
1. A control device adapted to be connected in a mechanical refrigeration system, comprising, a casing divided into a drier chamber and a trap chamber, each of said chambers having an inlet and an outlet, a drying agent in said drier chamber, filter in said drier chamber, flow of fluid through the drier chamber being over said agent and through said filter, a coil of capillary tubing in said trap chamber and being positioned in the flow path between the inlet and outlet of the trap chamber, one end of said tubing being connected to the outlet from said drier chamber and the other end of said tubing extending through the trap chamber wall and being adapted for connection to an evaporator inlet, said drier chamber inlet being adapted to be connected to a compressor to receive refrigerant therefrom, said tubing being adapted to receive dry filtered refrigerant from the drier chamber and to control flow of such refrigerant to the evaporator, said trap chamber inlet and outlet being adapted to be respectively connected to the evaporator outlet and the compressor inlet, flow through the trap chamber serving to sub-cool the refrigerant in the tubing and to insure complete vaporization of refrigerant flowing from the trap chamber.

2,506,938. THERMOSTATIC SWITCH. William A. Biermann and Lourdes V. McCarty, Milwaukee, Wis., assignors to Automatic Products Co., Milwaukee, Wis., a corporation of Wisconsin. Application Feb. 8, 1946, Serial No. 646,361. 5 Claims. (Cl. 200—139.)



1. An electrical insulating panel, a fixed contact mounted on the panel, a flexible hinge fixed at one end on the panel and extending in spaced relation thereto, a rigid arm secured to the other end of the hinge, a generally straight bimetallic element fixed at one end and extending at an acute angle with respect to and from the free end of the arm, a screw extending through the bimetallic element said one end of the element and bearing on the arm to vary the angular relation thereto, and a contact mounted on the bimetallic element and movable upon flexing thereof into contact with the fixed contact.

2,505,947. TRAY FOR MAKING ICE CUBES OF VARIOUS DESIGNS AND SHAPES. Ben H. De Brooke, Jackson Heights, N. Y. Application May 1, 1948, Serial No. 24,495. 1 Claim. (Cl. 62—108.5.)



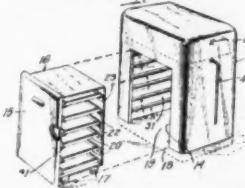
A tray for making ice cubes of various designs and shapes comprising a longitudinal flat plate of substantial thickness and being made of flexible plastic material, reduced handle portions being provided at opposite ends of said plate and the upper sides of said handle portions being flush with the upper side of the rest of the plate, and deep cavities of various shapes and designs extending into said plate from its upper side having upwardly diverging side walls.

2,506,099. AIRBLAST QUICK FREEZING OF FOODSTUFFS. Harry A. Noyes, Watertown Mass. No Drawing. Application Feb. 24, 1949, Serial No. 78,229. 2 Claims. (Cl. 62—173.)

1. In an airblast quick freezing process for foodstuffs, steps comprising coating such surfaces of the containers as will contact the foodstuff while it is being

at predetermined pressure, forming a pressure chamber, a rigid guide means on the cupped member engageable over the inwardly projecting part of the inlet means to be guided theron, and connecting means between the diaphragm and the valve, outlet means from the housing and means to conduct fluid under pressure to the diaphragm to act oppositely to the gas pressure charge in the chamber.

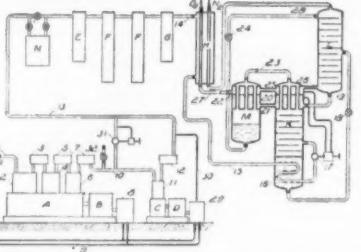
2,506,448. TEMPERATURE AND HUMIDITY CONTROLLED REFRIGERATING APPARATUS. Fred Gregor, Brooklyn, N. Y., assignor of one-half to Norber Roth, Forest Hills, N. Y. Application March 15, 1945, Serial No. 582,834. 8 Claims. (Cl. 62—114.)



1. A refrigerating apparatus of the class described comprising an insulated walled cabinet, said cabinet having a large refrigerating chamber therein defined by top and side walls spaced from the cabinet walls and forming in conjunction therewith intercommunicating passages at the top and sides of the cabinet, means comprising vertically spaced and horizontally aligned passages in opposed side walls of said chamber placing the side wall passages in communication with said chamber at vertically spaced intervals, means providing forced circulation of air from the upper passage downwardly through one of the side passages across said chamber and upwardly through the other side passage in the operation of the apparatus adjustable means controlling the intake of air into the chamber through the vertically spaced passages at the intake side of the cabinet, other means controlling the volume of air introduced into the first named intake side passage, and said last named means also controlling recirculation of air through said top circulating passage.

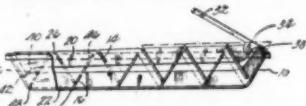
Week of May 9

2,506,614.—METHOD OF MAKING ICE AND APPARATUS THEREFOR. Walter G. Ribeiro, Camden, N. J. Application April 17, 1944, Serial No. 531,402. 4 Claims.



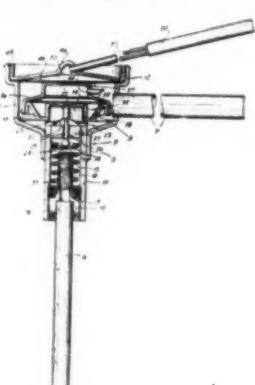
1. Process of separating atmospheric air into oxygen and nitrogen products which includes compressing the atmospheric air to a moderately high pressure, further compressing the compressed air to a high pressure, cooling the compressed air at said high pressure to a low temperature, throttling the cooled air to a low pressure, rectifying the low pressure air, regulating the throttling in accordance with the refrigeration requirements of the process whereby the maximum pressure of the compressed air varies, and eliminating the further compression of the compressed air whenever the maximum compressed air pressure is reduced to said moderately high pressure.

2,506,392. ICE TRAY. Maximilian Siebigroth, Detroit, Mich., assignor to Charles B. Kemp, Grosse Pointe, Mich. Application Oct. 25, 1946, Serial No. 705,726. 11 Claims. (Cl. 62—108.5.)



1. An ice tray partition unit comprising a plurality of wall sections adapted to extend transversely of an ice tray and being alternately inclined relative to the bottom wall of the tray so that adjacent wall sections are disposed at an angle to each other, a longitudinal partition member which comprises upper and lower members movable with respect to each other, said wall sections being arranged so that all wall sections inclined in the same direction are movable with one of said longitudinal members and wall sections adjacent to said last mentioned sections are movable with the other longitudinal member, and means for moving said upper member in a combined upward and longitudinal direction relative to said lower member whereby the wall sections movable with said upper member are moved in parallel inclined planes.

2,506,413. THERMAL VALVE. John E. Dube, Chesterfield, Mo., assignor to Alco Valve Co., University City, Mo., a corporation of Missouri. Application Jan. 12, 1946, Serial No. 640,930. 8 Claims. (Cl. 236—92.)



1. In a valve, a housing, tubular inlet means attached to the housing and projecting inwardly thereto, a partition across said tubular inlet means having an opening therethrough, a valve on the outward side of the partition, means urging said valve yieldably toward the opening, a power means on the housing including a movable element, means for transmitting movements of the movable element to the valve including a collapsible pressure chamber having a rigid cupped member and a diaphragm thereacross adapted to be charged with gas

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233.)

Of Air Conditioning and Refrigeration News published weekly at Detroit, Michigan for October 1, 1950.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Business News Publishing Company, 450 West Fort St., Detroit, Michigan.

Editor, George F. Taubeneck, 570 University Pl., Grosse Pointe, Mich.

Managing editor, Phil B. Redeker, 112 W. Euclid, Detroit, Michigan.

Business manager, Edward L. Henderson, 1273 Stanley Blvd., Birmingham, Mich.

2. The owner is: If owned by a corporation, the name of the corporation, its address, name and address of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.

Business News Publishing Company, 450 West Fort St., Detroit, Michigan.

Margaret B. Cockrell, 18090 Wildmere, Detroit, Michigan.

George F. Taubeneck, 570 University, Grosse Pointe, Mich.

Helen C. Henderson, 1273 Stanley, Birmingham, Michigan.

Phil B. Redeker, 112 W. Euclid, Detroit, Michigan.

Robert M. Price, 10830 Vernon, Huntington Woods, Mich.

C. Dale Mericle, 1715A Westbrook, Detroit, Michigan.

Walter J. Schuler, 5124 Seminole, Detroit, Michigan.

John O. Sweet, 15380 Holmst, Detroit, Michigan.

3. The known bondholders, mortgages, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, also the statements in the two paragraphs shall be the affiant's full knowledge and belief as to the circumstances and conditions under which the stockholders and security holders do not appear upon the books of the company as trustees, held stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was (This information is required from daily, weekly, and semiweekly newspapers only) 16,816.

Edward L. Henderson (Signature of business manager).

Swar to and subscribed before me this 18th day of September, 1950.

L. Gertrude Livingston (Signature)

(My commission expires August 15, 1952)

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These Foreign Food Technologists View Frick Plant Production

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NEW YORK CITY—As part of the Economic Cooperation Administration's program to show modern American industrial methods and procedures to Marshall Plan nations, approximately 50 persons representing 12 foreign nations toured York Corp. and Frick Co. recently and were told the important part that air conditioning and refrigeration plays in the American way of life.

Countries represented were: Norway, Sweden, Denmark, Iceland, Ireland, United Kingdom, Netherlands, Belgium, France, Germany, Australia, Switzerland, and Italy.

The visitors were executives, technicians, research and operative personnel engaged in handling, transportation, and storage of perishable foods in their own countries.

The group was greeted at York Corp. by Marshall G. Munce, vice president, and host for York. He discussed the history, achievements, and importance of the refrigeration and air conditioning industry.

John Carr, manager of York's

International division, told of his firm's activities throughout the world. Following his talk, John M. Lambert, manager of retail sales, gave an informative lecture, after which the group toured the Grantley plant, where the members saw first hand the manufacture of automatic ice makers, "FlakIce" machines, and air conditioners.

Those in the group were as follows:

George L. Fischer, ECA consultant; Viktor Warchalowski, owner and consulting engineer of Warchalowski Co., Vienna, Austria; Josef Hausberger, branch chief and manager of cold storage plant in Tyrol, Austria; Joseph Van Snick, director of maritime cold storage, "Refribel" (Administration of Refrigeration Services of the Belgium State), Antwerp, Belgium; Jules Foulon, director of "Refribel," Brussels, Belgium.

Pierre Everaert, manufacturing director and consulting engineer, Courtrai, Belgium; Emile Laurent, manager, S. A. Atelier B. Lebrun, Nimy, Belgium; Roger L. Country, agricultural attaché, Belgium Embassy, Washington, D. C.; Svend Aage Andersen, director of the Research Institute and assistant professor at the Polytechnic Institute, Copenhagen K., Denmark; Mogens Kondrup, section manager, The Research Institute of Danish Refrigeration, Gemtofte, Denmark.

Hans Kristian Nielsen, consulting engineer, Copenhagen, Denmark; Halvdan Moller, dairy adviser, Central Organization of Danish Dairy Associations, Roskilde, Denmark; Jean Laridan, technical director, French Society of Refrigerated Transportation and Warehousing, Neuilly-sur-Seine, France; Michel Anquez, engineer, French Ministry of Agriculture, Paris, France; Charles Glachant, managing director, Sarl "Budaco," Paris, France.

Andree Neuenschwander, chief engineer, Brissonneau and Lotz Nantes, Levallais-Perret (Seine); Marcel Chauve, chief engineer, Ateliers and chantiers de la Loire, Paris, France; Ernest Schroder, head of department, Eisenbahn Zentralamt, Deutsche Bundesbahn former Deutsche Reichsbahn, Gottingen, Germany; Otto Wagner, chief engineer, Manufacture of refrigerating machines, Gesellschaft fur Linde's Eismaschinen A. G., Wiesbaden, Germany; Karl Koop, Private refrigerator truck operator, Hamburg, Germany; Rudolf Plank, Professor of Refrigeration, Institute of Technology, Karlsruhe, Germany; Johann Kuprianoff, Professor and Director, Technical University Karlsruhe, Karlsruhe, Germany.

Cristino Damiano, Engineer, Verti Soc. p. Az, Turin, Italy; Paul Cadsky, Director of W. Cadsky-Bolzano, Rome, Italy; Ettore Bottini, Director of the Agricultural and Chemical Experiment Station of Turin, (Italia), Torino, Italy; Luciano dell'Orto, General Manager, Off. Mecc. Ing. Giuseppe dell'Orto s.p.a. Milan, Via Mera, Milan, Italy; Mario Fasoli, Chief Inspector, Italian State Railway, Firenze, Italy.

PROFITABLE COMMERCIAL refrigeration and air conditioning sales and service business in East Florida city. Owner retiring for reasons of health. Now do 75% of commercial sales and service in area. Cold storage work in addition. Inventory includes new Dodge truck. Around \$10,000 to purchase. BOX 3578, AIR CONDITIONING & REFRIGERATION NEWS.

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DISTRIBUTING DEALER lines wanted! Major and traffic appliances Ohio-Indiana-Michigan territory or part. We give active personal contact, sales meetings, full promotional effort. Complete history and references will be given. BOX 3579, AIR CONDITIONING & REFRIGERATION NEWS.

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Department of Agriculture, Benne-

strom (STAL), Finspong, Sweden; Lars-Georg Hagert, Sales Manager, Swedish Farmer's Meat Marketing Association, Stockholm, Sweden; Karl Larson, Assistant Chief Engineer, Swedish State Railroads, Mariehamn, Sweden; Gustaf Goude, Consultant and chief of planning division, Swedish Farmer's Egg Marketing Association, Stockholm, Sweden; Jacob Baltzar Jacobsson, Head of biological department, AB Stockholms Bryggerier, Stockholm, Sweden.

Ernest Baumgartner, Director, Station Cold Storage Coy. Ltd., Basle, Switzerland; James Hearne, Principal Scientific Offices, Ministry of Food, Scientific Advisers Division, Ministry of Food, London, England; John Bannard, Inland Transport Manager, Lever Bros. & Unilever Ltd., Middlesex, England; Frederick Beams, Engineer, York Shipley, Ltd., 3 Grasmere Ave., Whitefield, England.

Martin Bosnes, Head of the refrigerating department, Landteknikk A.S., Oslo, Norway; Rolf Olaussen, Engineer, Directorate of Fisheries, Bergen, Norway; Jorgen Lorentzen, Consulting Engineer, Fiskeridierktoratet, Bergen, Norway; Josef E. N. Kjelleras, Vice President in charge of manufacturing, E. A. Rosengrens Kassaskapsfabr AB, Gothenburg; Ivar Brandin, Chief Engineer, Svenska Turbinfabriks AB Ljung-

Calvin, Buehring, Krantz Get Key Sales Posts at Frigidaire

DAYTON—Three new appointments to national business sales department of Frigidaire Div. of General Motors Corp. are announced by W. F. Switzer, the factory's commercial sales manager.

Appointed to key posts are:

J. F. Calvin, formerly national business sales representative of Frigidaire's Chicago district, now national business sales representative in the midwestern territory out of Dayton.

H. T. Buehring, formerly division manager and national business sales representative in the Fort Worth district, now national business sales representative of the southwestern territory out of Dayton.

LeRoy J. Krantz, formerly manager of engineering, installation, and air conditioning sales for a refrigeration firm in Dayton, now air conditioning sales engineer for Frigidaire.

Calvin has been associated with Frigidaire for 20 years. Prior to his assignment with the Chicago district he held various supervisory positions in the district's service, engineering, commercial, and air conditioning sales departments.

In his new position Calvin will handle the various phases of national accounts and other quantity buyer business in Dayton, Indianapolis, Kansas City, Omaha, St. Louis, Sioux City, and Wichita districts.

Krantz had served with refrigeration firms in Chicago and Omaha before coming to Dayton.

He will be assigned to various Frigidaire districts throughout the country on specific air conditioning projects where engineering assistance is required to expedite national chain and quantity buyer air conditioning sales.

Onthank To Distribute Admiral In Des Moines

DES MOINES, Iowa—The G. W. Onthank Co., here, has been named the new distributor in that area for Admiral Corp., it was announced by Wallace C. Johnson, who is Admiral Corp. vice president in charge of sales.

The Onthank Co., located in a five-story building at 10th and Mulberry Sts., which comprises 100,000 sq. ft. of warehouse and display space will handle 73 counties in central Iowa for Admiral.

This territory was formerly handled by the Bi-State Distributing Corp. of Omaha. This company remains as Admiral distributor for the Nebraska area.

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Norge Maps Strong Merchandising Drive As Sales Set Record

CHICAGO—Norge Div. of Borg-Warner Corp. will press an aggressive nationwide merchandising campaign in the face of the world situation and the credit controls, materials shortages, and allocations, states George P. F. Smith, president of the Norge Division.

August was the largest month sales-wise in the history of the division, Smith said, and Norge appliances are now being shipped to distributors at a rate of approximately a million units a year, he declared. Furthermore, he said, this record was made in the face of the fact that "scare buying" of appliances had pretty well tapered off by the end of July.

Concerning the effect of the new credit controls, Smith said that reports from Norge distributors and dealers had shown that, even before restrictions on consumer credit were re-imposed, there was an unusually heavy amount of cash buying, and down payments were the rule rather than the exception.

Declaring that a \$12 million post-war expansion of the manufacturing facilities of the Norge Div. had paid off in increased production and record sales, Smith said that "our post-war addition of new plants and new and improved equipment has placed Norge in an extremely flexible position. It is reasonable to assume that, if necessary, we could handle our share of the manufacture of war

products and at the same time produce a considerable volume of household appliances."

The Norge program of expansion, begun in 1946, was marked by the acquisition of a plant in Herrin, Ill., for the manufacture of washers; a plant in Effingham, Ill., for the making of electric and gas ranges; and a plant in Chattanooga, Tenn., for the production of refrigerator compressors. The Chattanooga plant can produce 2,600 hermetic refrigeration units daily. All assembly work on the compressors is completed in a "controlled atmosphere" room.

In the past three years approximately \$2 million in new equipment has been installed in Norge's Muskegon Heights, Mich., plant for the production of refrigerators. Norge's main engineering department, formerly located in Detroit, now has been integrated with operations in the Muskegon Heights plant.

This past July Norge moved its central executive offices from Detroit to the Merchandise Mart in Chicago. The Norge Appliance Service Div., in the Muskegon area, has been completely modernized.

Missouri RSES Assn. To Hold 2nd Annual Parley Oct. 6-8 In Springfield

KANSAS CITY, Mo.—A three-day program is being formulated for the second annual convention of the Missouri Association, Refrigeration Service Engineers Society, states Cecil R. Visger, president.

The convention will be held Friday, Saturday, and Sunday, Oct. 6, 7, and 8, at the Colonial hotel in Springfield, Mo. Exhibits are being planned in conjunction with the meeting.

Registration will start at 9 a.m. Friday. Formal opening of the convention is scheduled for 1 p.m.

Programmed thus far for the first session are presentations on "The Story of Rock-Wool Insulation," and "Important Contribution of Refrigeration to the Quality of Milk and Milk Products." The latter talk will be given by Prof. W. H. E. Reid, of Missouri university.

A "Question Box" period, with answers by the experts, will get the Saturday morning session underway. Joe Merkle, of Ranco, will then discuss "Helping To Make the Customer Happy." A talk on "Economics and Tomorrow" by Prof. Knox, of Drury college, it to conclude the session.

After a luncheon with a guest speaker, O. C. Brown, of General Motors Acceptance Corp., will open the afternoon session with a talk on "Profit On Your Investment." Merle G. Hayes, western sales manager for Sporlan Valve Co., will follow Brown to the platform to discuss "Humidity vs. Preservation."

Sunday morning will be devoted to another Question Box period and a talk by John H. Spence, chairman of the international educational and examining board, on "Open Refrigerated Display Cases." Adjournment will follow Spence's address.

Other events on the program in-

clude a cocktail party and a banquet and entertainment on Saturday evening.

Exhibits will be open at 5 p.m. Friday and at 4:30 p.m. Saturday.

The Springfield Chapter will be host for the convention. Max F. Hunter, secretary of the chapter, is convention chairman.

Philco Price Increases--

(Concluded from Page 1, Column 3) \$20. The price of one freezer model went up \$15; that of the other \$20.

Old and new prices of the lines follow:

| Model No. | Refrigerators | | Old Price (Zone 1) | New Price | Sizes |
|-----------|---------------|-----------------------|---------------------------|-----------|-------|
| | Model No. | Old Price (Zone 1) | New Price | Sizes | |
| 702 | \$189.50 | \$199.95 | 1. Less than 4 cu. ft.... | 338 | ... |
| 703 | 214.50 | 224.95 | 2. 4 cu. ft. | 3,062 | ... |
| 704 | 229.50 | 239.95 | 3. 5 cu. ft. | ... | 465 |
| 704-L | 234.50 | 244.95 | 4. 6 cu. ft. | 52,796 | 540 |
| 903 | 249.50 | 259.95 | 5. 7 cu. ft. | 68,671 | 169 |
| 905 | 274.95 | 289.95 | 6. 8 cu. ft. | 159,636 | ... |
| 1102 | 299.95 | 314.95 | 7. 9 cu. ft. | 104,430 | 80 |
| 1103 | 329.50 | 349.95 | 8. 10 cu. ft. | 43,084 | 134 |
| 1104 | 349.50 | 369.95 | 9. 11 and 12 cu. ft. | 58,354 | ... |
| | | | 10. 13 cu. ft. and up ... | 431 | 1,036 |
| | | | 11. Total | 490,802 | 923 |

| Model No. | Freezers | | Old Price (Zone 1) | New Price | Sizes |
|-----------|-----------|-----------------------|---------------------------|-----------|-------|
| | Model No. | Old Price (Zone 1) | New Price | Sizes | |
| DH-81 | 265.00 | 279.95 | 1. Less than 4 cu. ft.... | 1,475 | 244 |
| EH-121 | 349.50 | 369.95 | 2. 4 cu. ft. | 23,469 | 2,387 |

July NEMA Sales--

(Concluded from Page 1, Column 2) almost completely accounted for by a slackening demand for the most popular size units—the 8 and 9-cu. ft. boxes.

For the first seven months of 1950, these manufacturers sold 3,569,318 units, 46% ahead of the number sold during the same period of 1949. Less than 2,500,000 units were sold in the first seven months of last year.

7-Mo. Refrigerator Sales Over 3,500,000

Summary for July and First Seven Months, 1950

Complete Refrigerators Only—Sales by Sizes—Units

JULY (15 Companies)

| | Domestic (48 States and D. C.) | Canadian | Other Foreign | Total |
|---------------------------|--------------------------------------|----------|------------------|--------|
| 1. Less than 4 cu. ft.... | 338 | ... | ... | 33 |
| 2. 4 cu. ft. | 3,062 | ... | 465 | 3,52 |
| 3. 5 cu. ft. | ... | ... | ... | ... |
| 4. 6 cu. ft. | 52,796 | 540 | 5,040 | 58,37 |
| 5. 7 cu. ft. | 68,671 | 169 | 2,344 | 71,18 |
| 6. 8 cu. ft. | 159,636 | ... | 3,742 | 163,37 |
| 7. 9 cu. ft. | 104,430 | 80 | 1,727 | 106,23 |
| 8. 10 cu. ft. | 43,084 | 134 | 950 | 44,16 |
| 9. 11 and 12 cu. ft. | 58,354 | ... | 1,036 | 59,39 |
| 10. 13 cu. ft. and up ... | 431 | ... | ... | 43 |
| 11. Total | 490,802 | 923 | 15,304 | 507,02 |

FIRST SEVEN MONTHS (15-18 Companies)

| | Domestic (48 States and D. C.) | Canadian | Other Foreign | Total |
|---------------------------|--------------------------------------|----------|------------------|-----------|
| 1. Less than 4 cu. ft.... | 1,475 | 244 | 1,719 | 2,583 |
| 2. 4 cu. ft. | 23,469 | 2,387 | 25,856 | 96 |
| 3. 5 cu. ft. | 94 | 2 | 98 | ... |
| 4. 6 cu. ft. | 384,290 | 686 | 24,914 | 409,890 |
| 5. 7 cu. ft. | 382,502 | 264 | 16,932 | 399,638 |
| 6. 8 cu. ft. | 1,235,961 | 80 | 30,893 | 1,266,834 |
| 7. 9 cu. ft. | 760,063 | 209 | 9,134 | 769,406 |
| 8. 10 cu. ft. | 278,674 | 352 | 5,268 | 284,294 |
| 9. 11 and 12 cu. ft. | 394,584 | 4 | 5,155 | 399,743 |
| 10. 13 cu. ft. and up ... | 11,627 | ... | 55 | 11,682 |
| 11. Total | 3,472,739 | 1,595 | 94,984 | 3,569,818 |

Participating companies: Admiral Corp.; Avco Mfg. Corp.; The Coolerator Co.; Frigidaire Div.; General Motors Corp.; Deepfreeze Appliance Div.; Motor Products Corp. (in 7-1-50); General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div.; Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (in 2-1-50); Norge Div.; Borg-Warner Corp.; Sanitary Refrigerator Co.; Seeger Refrigerator Co.; Westinghouse Electric Corp.

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